

189

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## ORIGINAL ARTICLES

### Problems of United States Veterans' Bureau in the Care of Neuro-Psychiatric Claimants

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[Read at the New England Psychiatric Association Meeting, April 3, 1924]

MANY of you will consider this a very large subject for one paper. In fact, I can hear various members of this gathering remarking that the Veterans' Bureau contact with the hospital in which they are interested would, in itself, be the basis for a paper of this character. All I can hope to do, in the time allowed, will be to indicate in a general way some of the important problems which occur in the care of the neuro-psychiatric patient.

In considering the problems of this particular group in the Veterans' Bureau, I shall take it for granted that you already know the general nature of the problem, and I will simply state it briefly. These problems arise from the wish of the government to aid in the adjustment and the return to health and normal life of the veterans, disabled by nervous or mental disease. This implies study, examination, and a working diagnosis of these claimants. It implies advice and follow-up as to treatment.

The term treatment is given a broad meaning and includes all the agencies which the Veterans' Bureau uses in assisting the patient in the recovery or amelioration of his condition. This includes hospitalization, out-patient treatment, home nursing, compensation, and rehabilitation by vocational training.

A consideration of the size of this problem will help to a clearer understanding. The figures I give are for the First District, which includes the New England States, with the exception of Connecticut.

In this district there were about 311,000 who entered the service. Those who have filed claims for disability total about 64,000, or about one fifth of the total number entering the service. Of this group, approximately 10,000 are drawing compensation; about 6370 are in training at the present time, and 4,323 have completed their training, making a total of 10,693 trainees. It is estimated that the number of NEURO-PSYCHIATRIC CLAIMANTS is about 16,000, this being about one quarter of the total number. The number of neuro-psychiatric patients

in training is difficult to estimate, as many are in training because of other disabilities, the neuro-psychiatric condition being a secondary one. However, nearly 1600 trainees are definitely neuro-psychiatric beneficiaries.

The number of examinations made each month by neuro-psychiatrists in this district averages well over 800, the Boston Sub-District Office alone averaging over 500 a month. These figures are exclusive of hospital reports, and give an idea of the amount of work being done with this group. The number of cases in hospitals with whom we are making contacts approximates 1,000. These are not all authorized compensable cases.

While we are considering statistics, the number of cases classified grossly in diagnostic groups is of interest. Figures, given briefly, as of January 1, 1924, are as follows:

Constitutional conditions	1,376
Drugs and Alcoholism	71
Endocrine conditions	155
Epilepsy	667
Neuro-Vascular conditions	50
Nerve injuries	1184
Psychoneurosis	8638
Psychosis	1919
Organic Brain and Cord	546
Chorea	12
Malingering	11
Unclassified	103
Total Number of Cases	14,732

A glance will show that the psycho-neurotic group is by far the largest, including more than one half of the total. The neurasthenic or psychoneurotic group has been largely used as a "catch all" diagnosis. It is applied to the man affected by mental and physical stress; the man who is obsessed with vague fears; as well as the patient who has mental conflict from maladjustment either of domestic, economic, or social origin; as a result of war experiences, or even

as a result of the difficulties in readjustment since the war.

The incident of insanity in the State of Massachusetts, among men of a similar age, that is, 18 to 30, for a period of five years shows first admissions 2,185, with a population of 378,000 males of the same age; the incident of insanity in ex-service men, 1,919, from a population of those who entered the service 311,000. This shows very little increase from what might be called the normal incident of insanity in everyday life.

As to *Problems of Organization*, the size, as well as the nature of the work, necessitates a large organization to handle it, with a considerable staff of physicians, rehabilitation agents, and other personnel. This, in itself, means further problems of policy and organization.

The report of the physician is the basis for practically all future action on the claimant's case. It determines whether he needs treatment; the type of treatment; the character of the disability; and the degree of the disability on which to rate his compensation. The report also shows the need and practicability of training. No action can be taken without the medical report. For this reason, it follows that co-ordination and proper standardization in all of the medical functions are most essential. Better results are obtained by co-ordination between average physicians than can be obtained from brilliant men who are not cohesive. The different departments of medicine overlap, and each department is dependent upon the other. Neuro-psychiatric conditions simulate physical conditions often so intimately that the neuro-psychiatrist relies a great deal on the reports of other specialists in making his own diagnosis, particularly in the functional conditions.

Standardization of reports is equally important. The examiner must keep in mind that the Rating Physician does not see the claimant, but only the examiner's report. Therefore, if the examiner does not make the report complete and graphic, the claimant may suffer an injustice. An opinion should show the proper basis for such decision, or it is of little value. The able physician backs his opinion with sound reasons. Mere diagnoses do not show the condition of the patient. A review of reports made on one patient over a period of years brings out strikingly the value of descriptions of conditions, rather than the diagnosis, which may be changed according to the viewpoint of the particular physician who sees him. A good example of this is the case of the man who was discharged from the service with a diagnosis of "Traumatic Neurosis" caused by lightning stroke. The following succession of diagnoses was given, over a period of five years:

1. Traumatic neurosis with possible malingering.
2. Beginning organic disease of spinal cord; not malingering.

3. Typical multiple sclerosis.
4. Traumatic neurosis.
5. Hemiplegia, partial, left side.
6. Traumatic neurosis.

The latter seems to have been the correct diagnosis.

There can easily be considerable variation in reports of a neuro-psychiatric nature, when made by different physicians, affected by the amount of history available, as well as the personal equation. This is overcome, frequently, by group or board reports, corresponding to the staff reports from the hospital.

There is much to be said for the system in the New York Office, regarding reports on neuro-psychiatric cases. The patient sees the same physician time after time, both for treatment and periodic reports.

*The Problems of Treatment* are chiefly with the psychoneurotic group. The general policy of giving out-patient treatment rather than hospitalization has been followed in these cases. This policy has required modification in the case of those beneficiaries who live at a distance from centers where a neuro-psychiatric specialist is located, and temporary care in a hospital, for intensive treatment, as well as for observation, has been advised.

Between ten and twelve per cent of those patients hospitalized for neuro-psychiatric disability fall in the psychoneurotic group, the balance being made up largely by the psychotic group, and a few epileptics. About sixty per cent of all those showing a psychotic condition are under hospital treatment at the present time. There are about 225 men hospitalized at U. S. Veterans' Hospital No. 44, West Roxbury, Mass. The rest are grouped in the various State Hospitals, under contract. The new Veterans' Bureau Hospital at Northampton, Mass., is to open about May 1. It is planned then that all those patients who desire it will be taken care of in government hospitals.

*The Out Patient Clinic* at the Boston Psychopathic Hospital, for Veterans' Bureau cases, was established early in the history of the Bureau, and has been running for about three and a half years. The beneficiaries of the Boston Sub-District Office (which comprises most of eastern Massachusetts) are given treatment there. The neuro-psychiatric specialists in the District Office give their time almost entirely to the making of examinations and reports. The patients who require treatment are then referred to the Out Patient Clinic at 74 Fenwood Road. At this Clinic are several part-time specialists, who give one or two afternoons a week to this work. The average attendance at the Clinic has been from 250 to 400 a month. This Out Patient Clinic has an advantage in being located at a distance from the District Office, and in being under the charge of visiting specialists. The patient who comes to the Clinic from the Veterans' Bureau has a differ-



ent attitude from that of the average patient who comes to a physician's office, based on the fact that he is claiming compensation or training. He may be entitled to them, but that is not the point. He has developed a resistance to the type of treatment which is probably best for him. He is already prejudiced against any line of treatment or advice that may be given him. A specialist, not too close to the Bureau, can better overcome this attitude. He listens to the man's complaints, being careful not to antagonize him, but gradually establishing a feeling of confidence; so that in the course of time, when the man sleeps a little better, or is less conscious of that pain around his heart, he feels as he would toward a family physician who directs and encourages him, not as a claimant does to the man who has examined him, and is to pass on his status of rating.

Then, if he is advised to stop worrying about compensation and to go to work, independent of his claim, the patient is ready to believe that this is probably the best advice for him to follow, and he is willing to listen to any suggestions that the physician feels fit the case.

The patient gets to look upon the clinic physician as his friend and ally. He frequently asks the latter to act as a mediator with other departments of the Bureau—not always, however, in a good cause. A good illustration of this appeared in connection with a claimant in training at one of the vocational schools, who commuted from a distant suburb. He complained to the physician at the Clinic that he was becoming more nervous, that crowds oppressed him, and that it agitated him to ride on trains and electric. He requested the specialist to advise placement training for him in his home town. An investigation of this request showed that several men at this school had recently developed similar complaints, the basis for which was an increase in the train fares.

There is among some claimants an impression that the treatment at the Out Patient Clinic implies compensation, or an increase in compensation, on the basis that the man who has a disability requiring treatment is at least ten percent disabled. Consequently, there are many requests for treatment where the need and advisability of it is questionable.

A good example of this is the case of E. W., with a diagnosis of Neurasthenia, aggravated to the extent that there was a serious question of Hyperthyroidism. This patient was first referred to the Clinic in January, 1921. He did not report, and wrote, stating that unless he could be promised that his compensation would be increased, as a result of reporting, that he did not intend to come. He was told that the Clinic was for the purpose of treatment. He finally reported in October when he had been discontinued from training and was on hospital status. He was later put on a reduced compensation status of 25 percent. As a result of this,

he became almost unmanageable at home, was extremely nervous and irritable, and could talk of nothing but his ailments and the unjust treatment he had received from the Government. Subsequently, his disability was rated at 50 percent and then 100 percent. This, however, failed to satisfy the patient, and he felt that he should have a permanent, total rating, or else should be allowed vocational training. Finally, training was granted. As a result, nothing further was heard from him at the Clinic until December, 1923, at which time he was still in training, but he was having considerable difficulty at home, due to his nervous condition and constitutional inferior make-up. An effort was made to get him to report at the Clinic, but he answered quite promptly that he was in training now, and did not need to go out there.

The treatment clinic serves the purpose of taking care of many who otherwise would be sent to the hospital. The fact that 100 percent compensation is given during hospitalization to those who have a rating, tends to put a premium on such treatment.

The idea that rest and recreation, with freedom from work and responsibility, is the ideal treatment for the man who has a neurosis, no matter what the origin, is still popular. The person who has developed a neurosis as a result of dissatisfaction or maladjustment to conditions, in which he finds himself, is not usually benefited by hospital care. Such cases find it difficult to leave the hospital, and are little better fitted to carry on after discharge than before admission. The Clinic advises and helps these men in their adjustment, encourages them to persist, teaches them that confidence comes from overcoming obstacles, and that satisfaction comes from accomplishment.

*The Rehabilitation or Training* of these claimants is one of the largest as well as the most interesting of the problems. Training under rehabilitation must not be confused with occupational therapy, which is confined to the hospitals. Quoting the director, General Hines: "Complete rehabilitation means one thing—employment."

The regulations require, before entering training, that the claimant shall have at least a ten percent disability, a vocational handicap, and shall be feasible for training. The last two requirements are veritable stumbling blocks and give rise to an endless discussion.

By vocational handicap is meant an inability to carry on in the prewar occupation, and also, that in all probability training in some other vocation will overcome this handicap. In other words, there is a definite need for training. The next question is: "Can the claimant be reasonably expected to carry on in training? Will he progress towards an employable knowledge of a selected vocation?"

Applying these conditions to certain psychiatric groups quickly eliminates them from con-

sideration. The psychotic patient has a vocational handicap, but is not feasible. If he has recovered, the possibility of a recurrence of his condition is very great. It would also seem that he could probably carry on better in his established occupation. There may be a few exceptions to this in the Manic Depressive type. The Epileptic and Hysteroid with convulsions is not feasible. It is almost impossible to find a place where he can carry on continuously. The Constitutional Psychopathic patient and the Mentally Deficient have to be considered individually rather than as a group. The majority of the former are too unstable and changeable to be feasible. Of the latter group, those having a mental age below ten years do not make a success of training, under the present facilities for supervision in the government program.

This leaves the large group of Psychoneurotics for consideration. In this connection, let me quote from a recent letter from Central Office, issued by the Acting Clinical Consultant in Neuro-Psychiatry:

"The unsuccessful experience of the Rehabilitation Division in attempting to train beneficiaries with any psychoneurotic disorder is well known to the Medical Division. This is due to the absence of three fundamental requirements, necessary to insure success in training, namely:

1. State of health sufficient to allow training, without aggravating the condition.
2. Reasonable proof that the man will be physically and mentally able to complete the prescribed course.

3. On completion, to be able to follow continuously the vocation in which he was trained.

Psychoneurotic disorders are not removed by mere training in a new vocation. On the contrary, such training merely augments the patient's worries, and operates against his recovery from the unfortunate complex at the root of all psychoneurotic disorders. It magnifies his dread of the steadily approaching time when he must emerge from the shelter of his training, and re-enter the normal activities of life."

The first reaction to this statement is one of surprise, and a feeling that this statement is altogether too radical. Yet, it agrees with the opinion which seems to have gradually been developing, from observations extending over a period of nearly four years.

In order to determine for our own satisfaction the degree of successes or failures with this group, data is being accumulated to secure definite information. Already, about one hundred men, with a psychoneurotic condition, who have carried on in training to the point of being rehabilitated, have been studied. The majority of these men have been out of training for at least six months. It was found that

1. There are at present working in a vocation for which they were trained—44 percent.

2. Working at some other vocation than that for which they were trained—12 percent.

3. Out of employment or unable to work—21 percent.

4. Those from whom, so far, no recent data was received—23 per cent.

5. Those applying for, and receiving compensation of ten percent, or more—46 percent.

This group is probably too small to argue very much from, but it is more encouraging than one has been led to expect from the above letter, or the impressions received.

The importance of a careful study of a possible trainee, previous to entering training, cannot be too much emphasized. Many mistakes and much harm has been done, by starting men in training for objectives for which they are utterly unfit. Physical disability, previous education and experience, interest in employability, should all be considered, in order to expect successful rehabilitation.

The use of the psychometric studies by a competent psychologist has helped considerably, within the last year or two, in placing trainees. Many of the problems that have arisen with the trainees have been due to difficulties arising from placing them in types of training beyond the level of their ability. The result has been that the training objective has been frequently changed. The problem is further complicated by the aggravation of the mental symptoms, and by discouragement and loss of interest, as a result of unsatisfactory adjustment to training.

The following cases are typical:

1. A trainee, age 28, left school in the fifth grade, at the age of fourteen years; prewar occupation, carpenter. In training eleven months in architectural drafting, but not making good. Tested out with mental age of 11 2/12 years; I. Q. 69; reasoning ability limited; rapid falling off of successes at higher levels. He has since been transferred to placement training in paper hanging, an occupation which coincides much better with his general level of ability.

2. A trainee, age twenty-six years, left school in the ninth grade, at the age of sixteen years. Prewar occupations errand boy, color setter, and repair man in bowling alley. He was assigned to training in the Massachusetts Agricultural College; but failed in trigonometry and mathematics, which were obviously beyond his level, when considering his mental age of 9 9/12 years; I. Q. 61; performance characterized by little ability to generalize.

3. A trainee, age twenty-seven years; completed the first year of high school at the age of fourteen years. Prewar occupation, laborer. In training twenty-eight months as an accountant; training record averagely good. Complained of nervousness, of being easily tired, and of having much difficulty in concentrating. The examiner found a beginning aggravated psychoneurosis, apparently aggravated by continued application to a type of work in which

he did not seem to be especially interested. Psychometric test showed him to be a superior individual; a mental age of 18 6/12 was obtained with little effort. From the history alone, one would be inclined to assume that he was attempting an objective beyond his mental level, but it is highly probable that quite the opposite was true. His objective did not make sufficient demands on his mental ability to hold his interest.

The Training Supervisor is constantly meeting what are called problem cases in training, and he is learning to bring such cases to the neuro-psychiatrist for advice. The instructor has learned that the test of sanity is adaptability, and that those who are not adapting themselves properly can be suspected of having some nervous or mental disorder.

He has familiarized himself with certain fairly common types, such as the

1. Agitator, who indulges in chronic discontentment.
2. The man who is down-right dull.
3. The indifferent trainee, enthusiastic only about his pay check.
4. The waster, because of alcoholism or bad morals.

5. The shut-in personality.

6. The chronically unstable—probably the most vexatious.

These are brought before the psychiatrist for his advice regarding the probable trainability and employability. Waste of effort and expense on those to whom training would mean no benefit is thus saved. He is also consulted regarding the proper placing of those claimants who are handicapped by a nervous and mental condition which need not prevent them from being trained or ultimately employed.

The time is too short to consider compensation, even briefly. It is complicated by legal as well as by medical problems. As fast as possible, disabilities that have become stationary are being placed on a permanent compensation status, thus gradually reducing the work. Many new claimants are constantly coming in for consideration, but it is doubtful if the apex for Neuro-Psychiatric cases has yet been reached.

With better organization, and a clearer understanding of conditions, gained from experience, improvements will result, and an increased measure of success will be attained from efforts properly directed.

#### Transactions of the New England Branch of the American Urological Association

The forty-second meeting of the New England Branch of the American Urological Association was held at the Harvard Club, Boston, on January 15, 1924, with Dr. John Cunningham, President, in the chair, and Dr. E. Granville Crabtree, Secretary.

There were no names proposed for membership.

It was moved, seconded and voted that the minutes of the last meeting be not read.

The Society then proceeded to the Scientific Program in which Doctors Arthur Crosbie, Quinby, Phelps, Riley, Graves and Colby by invitation presented cases. Dr. Rathbun of Brooklyn, New York, then presented the paper of the evening on "Stricture of the Ureter."

#### DR. CROSBIE

##### PRESENTATION OF SPECIMENS

DR. CROSBIE: I have three cases here of double kidneys that may be of interest—nothing very remarkable—(showing X-ray plate). That is a kidney that was picked up in the routine examination in the office of a man who has a chronic prostatitis, and cystoscopic examination showed two ureters on his right. The pyelogram shows slight blunting of the calices of the lower half of the kidney. There were no leucocytes from the lower half. Apparently he has had an inflammatory process that has quieted down.

(X-ray plate shown.) There were double ureters all the way down to the bladder.

Here is another case found by Dr. Chamberlain—double ureters all the way down to the bladder and no definite pathology in the kidney itself. And here is another case the X-ray plate of double kidney in which there was gross pathology. The kidney was just a great, big pyonephrotic sac. This picture was made with an injection with bromide; and here is a large stone and calcareous deposits, and at the upper pole was a small upper half of the kidney which was perfectly normal. I removed the kidney. It was very large, and the lower half was just a large pyonephrotic sac. I will pass around an injection of the kidney after it was removed, showing the ureter that enters the lower half at this point here and the other there going up to that very small upper pole which was perfectly normal, and here is a photograph of the kidney itself, showing the ureter entering the pyonephrotic sac at that point and this ureter here going to the very small portion of apparently normal kidney. Of course, it is a possibility to resect and leave this little bit of normal kidney, but I think that would be very unwise surgery.

Then there is a case here (showing plate) I would like to show apropos of the paper that is to be read tonight. This is a French boy who is a student in Harvard who was complaining of

frequency. He had an attack of pyelitis. From the pyelogram you can see he has a double hydronephrosis. I operated on this right kidney and found more than the extrarenal dilatation that is shown here. At that point which you can see in the pyelogram there is a very

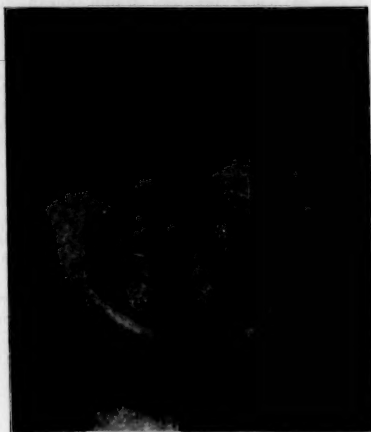


FIG. 1. Case I. Stone in extreme lower portion of ureter showing above opaque catheter coiled in bladder.

marked narrowing of the ureter at the place where it enters the kidney pelvis. I opened the ureter down here and all I could get through that end where it enters the pelvis was a very fine probe. It was a question whether I should cut off the ureter and transplant it or do a plastic. I finally decided to slit down from the pelvis and sew it up in the other direction. After I got it sutured I was able from this point here to pass a half length right through into the kidney pelvis. I then did a nephrostomy and put a tube through into this more dilated kidney pelvis. That was on the 26th of September, and the boy is now dry after having leaked all his urine through the nephrostomy wound. On the other side the kidney was considerably ptosed, and there was a small aberrant vessel which constricted the ureter at that point, which I operated on and there again I freed the ureter and did a nephrostomy.

#### DISCUSSION

DR. QUINBY: Was there infection on the first side?

DR. CROSBIE: There was infection on both sides.

DR. QUINBY: That was the indication for the nephrostomy?

DR. CROSBIE: Yes; hydronephrosis plus infection.

#### DR. QUINBY

#### REMARKS ON THE OPERATIVE LOCALIZATION OF URINARY CALCULI

I wish to discuss two aids in the localization of urinary calculi at operation as illustrated by actual cases.

CASE I. The first instance is that of a woman who for over a year has been known to have a stone impacted in the ureter just outside the bladder. Here is an injected film, the shadow of the stone showing just above the tip of the opaque ureteral catheter, and in this second film with the catheter held into the ureter for a moment the pyelographic medium shows, passing beyond the stone. Intermittently for a year various intravesical methods were employed to tempt the stone to pass spontaneously. These were not successful, and our feeling was that the stone was solidly impacted at the point where the ureter crosses under the broad ligament. At operation our incision was made just above the bladder. This was pushed to one side and the right ureter picked up in its lowest portion. No evidence of stone in this portion of the ureter could be found. It thus became a question as to where the stone was. A film was made by means of the portable X-ray apparatus which



FIG. 2. Case I. Same as Fig. 1, opaque fluid passing beyond stone.

showed that the pelvic portion of the ureter was entirely free from stone. It was evident then that we were dealing with a stone which moved freely up and down the ureter. During this procedure a tape had been passed under the ureter which angulated it and thus allowed an accumulation of urine to take place in the kidney. Having found that the stone was not in the pel-



vic portion of the ureter, the tape was loosened, when it was found that the increasing amount of fluid which had taken place above this constriction rapidly washed the stone down to the area of the incision in the ureter. We have here a dodge which one can try in the case of inaccessible, movable stones. Namely, let the urine accumulate in the ureter and pelvis with the hope that if the stone is not too large on release of the constriction it will be washed downward. Of course, if I had felt before operation that the stone was a freely movable one, I would not have placed the incision so low.

CASE II. In regard to the question of the operative localization of stone in the kidney itself there is a distinct help to be gained from making a film of the kidney while the patient is on the operating table. This film was made from a



FIG. 3. Case II. Showing outline of kidney containing two stones, the larger one in the pelvis, the smaller one in the substance of the kidney.

patient having two stones in the kidney. The larger one was in the pelvis and was easily delivered through a pyelotomy wound. The other stone, though its shadow on the film shows in the same plane as that in the first kidney, could not readily be felt. It was deep in the substance of the kidney. While doubtless it could have been found after some hunting, by exposing the kidney immediately to the X-ray, it became very easy to localize the stone and pick it up without any undue trauma.

The films which are used are about 4x5 in. in size, and are wrapped in opaque paper and used with a rubber cover to keep moisture off them. Being flexible the film can be actually molded around the kidney which need not be held far

above the wound. The kidney is held in place by tapes passed beneath it.

CASE III. The history of a third patient illustrates the importance of X-ray help, for had it been employed both patient and doctor would have had a much easier time. It concerns an individual who had first, in the fall of 1921, an appendectomy. This was entirely without influence on the pain in the right side of which he had complained. Therefore, a plain X-ray plate was made which showed the shadow of a calculus which was said to be large. This was removed in the spring of 1922 by pyelotomy. The next fall he began to have hematuria and four months later a second pyelotomy was done and a second stone removed. Now, at a time eight months after his last and third operation he is again bleeding, and a film made recently by us shows a shadow characteristic of stone in the region of the kidney. Whether these stones, this being the third one, had been missed at operation, or whether this individual was one of those who form stones rapidly, cannot be deter-

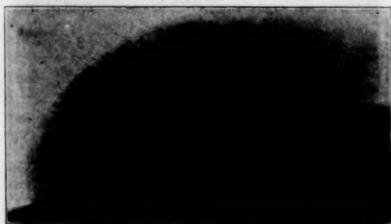


FIG. 4. Film made of kidney at operating table showing small calculus remaining in the substance of the organ.

mined at present. The point is that had the surgeon exposed the kidney at operation by the use of one of these films, made at the operating table, he would have known whether any stones remained in the kidney or not.

#### Discussion of Dr. Quinby's Case Report:

DR. CROSBIE: Did you get the small stone?

DR. QUINBY: Oh, yes; it is so much easier to get them when you know where they are. It was merely in a central calix.

DR. CROSBIE: Did you get it through nephrostomy or through the pelvis?

DR. QUINBY: Through both. That individual stone came out through the pelvis; but aided by pressure from above through incision in the cortex.

DR. BARNEY: I agree with Dr. Quinby that this is an excellent scheme when it works. We have got to the point where it is unsafe to try to take out kidney stones without some such aid as this, but I will say that it isn't entirely efficient. The portable X-ray machine as it is now made isn't powerful enough in a fat individual to locate these stones that lie at the bottom of

the wound. In some cases it has been of help, but in other cases it wasn't because the kidney was undeliverable. I mention this because some think it is 100 per cent efficient.

DR. QUINBY: Nothing in medicine is 100% efficient; but the film is flexible, and you can put it down into the wound behind the kidney.

DR. BARNEY: You get a big fat fellow and you can't work it.

#### DR. PHELPS

In association with Dr. E. L. Hunt, I would like to show a specimen which we met with at Worcester City Hospital:

The specimen is that of the bladder of a man 64 years old, who came to autopsy and was found to have a solitary kidney and but one (Showing specimen)

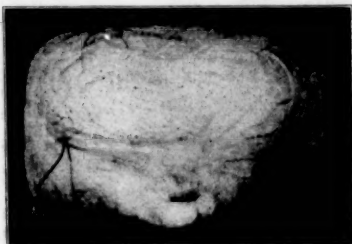


FIG. 5. Bladder from case of solitary kidney.

ureter. This specimen shows the bladder turned inside out.

We are looking up the literature and expect to make a further report on this case.

This condition is one not incompatible with good health and advanced years. We have found reports of cases varying from the embryo to 88 years of age. We have no cases reported in the literature which were diagnosed during life; our case was diagnosed post mortem.

DR. BARNEY: Did I understand you to say that they were not diagnosed during life?

DR. PHELPS: We have found no report in the literature where the diagnosis was made during life.

DR. BARNEY: Perhaps the experience we have had at our Clinic is unique: Ten years ago, we cystoscoped a man of 30 or 40 who had only one ureter. Several of us observed him and the fact was corroborated. He did have some pain, but there was nothing to operate upon.

DR. PHELPS: Was the case reported?

DR. BARNEY: No, it was never reported.

DR. QUINBY: I would like to ask Dr. Phelps if there were any other congenital anomalies in this case.

DR. PHELPS: There usually is, but in this man we found nothing other than the absence of the kidney and ureter.

In the literature, we found that there are often anomalies in the uro-genital system, the epididymes and tubes rather than testicles and ovaries. However, there are several cases in which the ovaries and tubes were absent and in one instance, I believe the vagina was absent. There may or may not be a suprarenal capsule, usually there is a part of the ureter.

DR. QUINBY: There was an interesting case in the hospital recently: A woman who had a bifid uterus. She was pregnant in one horn of the uterus, a uterus like that of the cat and dog, a uterus which was split down. She had a hysterectomy done, and this uterus was found. Subsequently, she came in complaining of infection in the bladder, and from investigation we found she had a single kidney.

DR. PHELPS: We are glad to learn of these reports because it seemed strange there were no reports of the diagnosis having been made during life.

DR. RILEY: The case I wish to report was a patient, who came into the G. U. O. P. D., Boston City Hospital, October, 1921. Complained of Haematuria. He was cystoscoped. It was hard to make out just how extensive the trouble, which was a growth in the floor of the bladder. Diagnosis: Malignant Growth of Bladder. Patient was referred to the hospital for operation. Operation: Supra-pubic Cystotomy. It was found at the time that the whole floor of the bladder was covered with a fungus-like growth. Pathological Report:—Rapidly Growing Carcinoma of the Papillary Type. The operation consisted of a cleaning out of the growth so far as possible and cauterization of the bladder wall. A few days later an X-ray exposure.

December 16, 1921, he had radium put into the bladder and left for twelve hours.

February 16, 1922, he had another dose of radium into the bladder.

May 25, 1922, after a slow closure of the suprapubic opening, he was cystoscoped. Cystoscopic examination showed scar tissue and some small granulating areas. Discharged from hospital to O. P. D.

November 19, 1923, patient returned to O. P. D. for the first time since leaving the hospital, May 1922. Claimed he had been all right until a few days ago, when he began to pass bloody urine again. He was cystoscoped and a small area of recurrence was found near the bladder outlet. It was most interesting to find very little scar tissue, where the original growth was, and there was a bladder capacity of ten to twelve ounces.

Patient was re-admitted to hospital for other radium applications.

#### DR. R. C. GRAVES

DR. R. C. GRAVES, Boston:—I wish to present a pyelogram of more than usual interest. The case is that of an American housewife, age 44,

who came to the office complaining of frequent painful urination. The family history and past history were not important.

Six months ago she suffered sudden severe pain in the flank and lumbar region, on the left side. There were no associated symptoms of any sort, but the pain persisted and morphine was finally necessary to obtain relief. The attending physician gave a diagnosis of renal colic due to stone.

During the next few weeks there were periodic attacks of discomfort, and in these the pain grad-

ually reached lower levels in the flank and groin. Three months ago all pain in the side disappeared and gave way to severe burning in the urethra at the end of micturition. This persisted in spite of bladder lavage and medicine by mouth. Urination became very frequent, and the urine has been very cloudy. A smear was negative for tubercle bacilli.



FIG. 6. Left pyelogram made with 20 c.c. of sodium mercuric iodid. Renal tuberculosis with abscess in lower pole of the kidney.

Physical examination found a well-developed and well-nourished woman of middle years. Her color was good and her appearance did not suggest general systemic disease. The important physical findings were as follows: Teeth in poor condition. Heart: action regular, save for rare extra systoles; soft systolic murmur heard at the apex, and transmitted into the axilla. Pulse: regular and synchronous with the heart beat (100). Blood pressure 187/115. Abdomen: Soft and tympanitic throughout, no masses. Kidney regions negative. Urine (catheter spec-

imen)—straw, cloudy, 1006, alkaline, albumen trace. Sediment: many pus cells. No blood or casts. Specimen sent for guinea pig inoculation. Cystoscopic examination found a bladder of normal tone and capacity. There was acute redness and tenderness of the trigone and vesical outlet. Congestion was especially marked about the left ureteral orifice, and in this region there was moderate edema with a few flecks of fibrin. Both ureters were readily catheterized. The urine from the right kidney was normal. The urine from the left kidney contained abundant pus.

X-ray plates with the catheters in position, showed no shadows of calculi.

A pyelogram was made upon the left side: 20 cc. of sodium mercuric iodid were injected without producing pain. The plate revealed a normal ureter, and a renal pelvis normal in size and outline, so far as its collecting portion was concerned. The upper and middle major calices were slightly blunted. In the region of the lower pole of the kidney all normal outlines were obliterated, and in their place was seen what appeared to be a large abscess cavity filled with opaque solution. Such a picture is entirely inconsistent with the changes due to simple pyelitis or pyelonephritis, and largely upon the basis of the pyelogram a diagnosis was made of left renal tuberculosis.

Operation was performed a few days ago by Dr. Cunningham, and the left kidney was removed. There was found, on section, a large tuberculous abscess in the lower pole, corresponding in position to the cavity shown in the pyelogram. Other small cortical abscesses were also present, scattered throughout the organ. The process had apparently begun, as is so often the case, in one of the inferior papillae, and had advanced therefrom to extensive tissue destruction.

## URETERAL STRICTURE

BY N. P. RATHBUN, BROOKLYN, N. Y.

[From the Urological Service of the Brooklyn Hospital, Brooklyn, New York]

It was my good fortune to hear Hunner's first paper on stricture of the ureter. This paper was presented at the New York Academy of Medicine in 1915, and had a very cold reception. The discussion was entirely adverse. Stricture of the ureter as a complication of tuberculosis and lithiasis was common enough and frequently recognized, but stricture of the ureter as a lesion per se was like Pat's attitude toward the giraffe when seen for the first time—"there warn't no such animal." All of Hunner's earlier contributions were received with the same degree of skepticism. Not at all discouraged by adverse criticism, he persisted in his efforts and

continued to write and publish the results of his continued investigations and broadening experiences. Oddly enough, one of his latest contributions was also presented at the New York

yet it must be admitted that it required a high degree of enthusiasm to put the idea across in the face of so much opposition.

Since Hunner's original paper, up to and including the present, I believe that this subject has been one of the most mooted points in urology. It would appear to me that urologists throughout the country have pretty well lined up in three camps: the first, with which I align myself, composed of those who are firmly convinced that stricture of the ureter is a very common condition, easily recognized, and very *satisfactory* to treat. This group I believe is increasing daily. Second, a gradually diminishing group who think there is nothing in it, and that the subject is not even worthy of investigation. Third, the very large group of honest, open-minded skeptics who are willing to be convinced. It is to this group that I address these remarks. I am thoroughly convinced that anyone who approaches this subject with an open mind and with the attitude that such a thing may exist, and who will include this item in the list of possibilities when making a diagnosis by exclusion, and really look for stricture of the ureter, will find it in a surprisingly large num-



FIG. 7. Normal pyelogram and ureterogram. The catheter has been entirely removed from the body. Note that the ureter is shown as a fine line of uniform width except at the upper end where it gradually enlarges to form the pelvis. We do not often see ureterograms of this sort, since we are dealing with pathological cases.

Academy of Medicine in the spring of last year. At that time he was able to present a large number of very striking clinical reports and proved, to my satisfaction at least, that this lesion is one of the most common of urological conditions. He further made the point that stricture of the ureter was frequently a pronounced factor in the causation of renal and ureteral calculi, instead of being a complication as was ordinarily supposed, and that a proper appreciation of this fact was of tremendous importance in the care of these cases. On the whole his evidence was naturally far more convincing than on the occasion of his contribution eight years before, and the discussion was almost without exception favorable. The few remaining skeptics showed a willingness to be convinced and indicated by their attitude that a very little further evidence would line them up as enthusiastic advocates of his doctrine, if such it might be called; so that the entire credit of bringing this matter to the attention of the profession belongs to Hunner, and the rest of us are merely disciples who have taken it upon ourselves to pass the word along. While there are those who think Hunner's enthusiasm has at times carried him a bit afield,

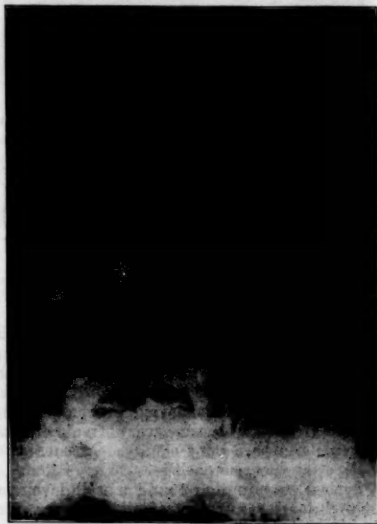


FIG. 8. Picture made several years ago before adopting our present methods. Whistle-tip catheter arrested at lower border of 4th lumbar vertebra. Dilated ureter and pelvis above. This stricture was later passed with a filiform guide and gradually dilated to No. 8, French. Aches in loin, pyuria, and bladder irritability entirely relieved.

ber of cases. If you don't look for them of course you won't find them. This to my mind is the whole crux of the situation and accounts in part for delayed recognition. This subject has



been dismissed too often with scant consideration and no investigation. It hardly seems fair to treat such an important matter in this manner. Once again I repeat,—bear in mind the



FIG. 9. Post-partum pyelitis. Two stricture areas just above bladder. Dilated, tortuous ureter above. This case was treated during febrile stage with indwelling catheter and frequent pelvic lavages; later with dilations and instillations until urine was free from pus and sterile. This latter item was essential to provide adequate drainage, eliminate stasis and prevent recurrence.

possibility of ureter strictures and look for them, and if you don't find them no harm is done.

While not profoundly impressed with Hunner's original paper, I was profoundly impressed shortly after by a series of experiences which must be common to every urological clinic. At that time we were making what we thought were fairly complete examinations of all patients, including cystoscopy, radiograms and pyelograms. We were not however making careful ureterograms as we are today. Many patients applied for treatment, complaining of pains and aches referred to the loin and groin. They would be subjected to the usual examinations, often with apparently entirely negative results, and we felt that we had failed to establish a diagnosis. The patients however would return at the next clinic day and volunteer the information that, whatever we had done for them, they were cured. I am satisfied now, in the light of our present knowledge, that many or most of these patients had strictures of the ureter, and that they were temporarily, at least, relieved by the simple passage of a ureteral catheter. Nowadays we are looking for these lesions, we are making careful ureterograms, and as a result we are recognizing many of them.

Last year we diagnosed and treated over one hundred of these cases, in my clinic at the Brooklyn Hospital, with almost uniformly excellent results.

One item which perhaps as much as any other has served to retard a more general appreciation of this subject is the fairly reasonable demand on the part of the critics that they be shown the actual pathology before accepting the matter as proven. They cite the fact that stricture of the ureter is rarely if ever noted as a part of the record of a complete autopsy, and that they are seldom if ever noted on the operating table. This has been rather a difficult argument to meet, for obvious reasons. It is a fact however that so-called complete autopsies rarely if ever include an investigation of the ureter unless attention has been directed to that organ. It is equally a fact that cases presenting symptoms of stricture of their ureters rarely come to autopsy, and if properly treated seldom come to operation. I believe that in the future they will be noted more frequently at autopsy because they will be looked for. Of course, the pathologist like the urologist won't find them unless he looks for them. I believe too that there

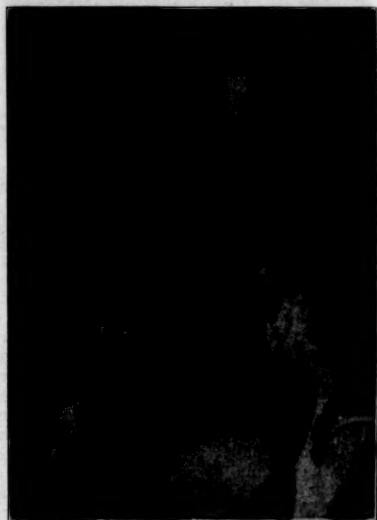


FIG. 10. Stricture at lower end of ureter. Constricted area can be seen through bladder shadow (the catheter has been removed). Moderate hydronephrosis; dilated, tortuous, and redundant ureter. This patient had repeated attacks of colic, pyuria, bladder irritability, and a marked reduction of F. S. S. Much improved by dilatation; still under treatment.

will be a gradually increasing amount of pathological evidence from the operating room. I have had two cases in which complications arose demanding an abdominal section. In each of

these a definite thickening of the ureter could be readily palpated at the site of the stricture area. Hunner has had many such cases. He has at least one very beautiful specimen removed at

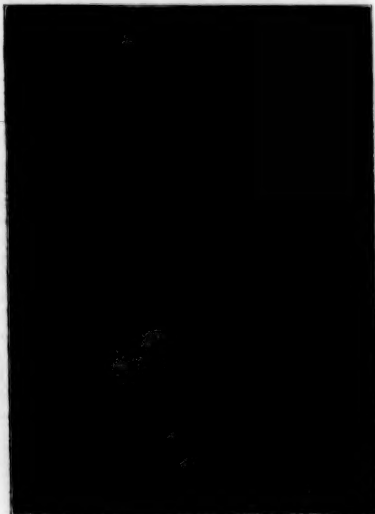


FIG. 11. Stricture near bladder. Enormous dilatation of lower end of ureter. Remainder of ureter and pelvis badly shown. Pain in loin and groin. This was a clinic patient who did not report after examination. We believe dilatation would have relieved the condition.

operation. I saw this while spending a day recently in Baltimore. It was removed from a young woman who had a supernumerary ureter extending from the upper part of the right kidney and opening into the urethra. A ureterogram showed a stricture of this ureter at about its middle, with dilatation above and normal caliber below. At operation the renal end of the ureter was tied off and dropped, and several inches, including the strictured area, removed for preservation. The specimen is being carefully sectioned, photographed, and sketched, and will doubtless be reported later. At a recent meeting of the New York branch of this Association, Aschner reported a case from the Mount Sinai clinic of a very tight stricture of the upper end of the ureter, which he dilated through a pyelotomy incision, with entire relief of symptoms. Other more or less similar cases are from time to time finding their way into the literature, so that the evidence on this phase of the situation is gradually accumulating.

Strictures of the ureter may occur at any part throughout its course, but are noted most commonly in the lower third. They may be single or multiple and they are very frequently bilateral. They may occur as a linear constrict-

tion or may involve two or more inches of the ureter.

The pathology for reasons noted above is difficult to discuss comprehensively. I believe it is fair to assume that it is similar to stricture in any other hollow organ round-cell infiltration and fibrosis representing the end result of inflammation, contraction, and resulting diminution of caliber. It is my belief that in some cases the pathology is limited to the cellular tissue around the ureter and that these are the ones that are relieved by the simple passage of a small ureter catheter.

Stricture of the ureter implies a preceding ureteritis at the site of the stricture. This may have occurred in the immediate or remote past, and may have come about in one of several ways. The etiological factors may be arranged conveniently in several groups. The first group, which probably includes the greatest number, comprises those instances in which there has been a direct extension of inflammatory processes from neighboring organs such as the bladder, the broad ligaments and tubes in the female, the seminal tract in the male, the sigmoid on the left, and the retrocecal and pelvic appendix on the right in either sex. The infection may be



FIG. 12. Stricture area begins just at margin of bladder shadow (spastic bladder). Dilated ureter and pelvis above. Ache in loin and groin for three years. Appendicectomy two years ago with no relief. Marked improvement after diagnostic ureter catheterization. Continues to improve under treatment.

by direct contact or through the lymphatics. As noted above this lesion occurs most frequently in the lower third of the organ, and you will re-

member that the ureter passes through the broad ligament in the female and in close relation to the seminal vesicle in the male. Infections in these structures are of course common and generally recognized.

Another group might include those cases caused by trauma inflicted at abdominal operations such as hysterectomy, removal of intraligamentous cysts, etc. While gross injuries to the ureters are usually recognized at the time of operation or shortly after, lesser injuries such as might be caused by including a small portion of the ureter wall in a clamp or ligature might readily pass unnoticed and give no symptoms until months or years later. Any woman who presents herself with any symptoms which might be referable to the urinary tract, and who gives a history of having undergone a pelvic operation, should be suspected of having a ureter stricture, and examined with that idea in mind. I have had a number of such cases in which stricture has been demonstrated and which have been promptly relieved by dilatations.

A third group represents the scars left after one or more attacks of pyelonephritis and ureteritis, many of which occur and pass unrecognized in infancy. Those of us who in our early days did general practice recall numerous more or less obscure febrile movements occurring in children, which were relieved by bowel irrigations and some febrifuge containing among other things potassium citrate. Nowadays, when more careful urine examinations are being made, these formerly rather obscure conditions are promptly recognized as cases of pyelitis. Most of them make prompt recoveries with appropriate treatment, but they may, and I believe often do, leave scars which give symptoms in later life. In my opinion the few who do not respond promptly are already beginning the formation of stricture, and the trouble persists simply because one of the first principles of treatment of any infection is overlooked. I refer of course to adequate drainage. This leads me to a brief allusion to the pyelitis of pregnancy and the puerperium. One might write a paper on the relation of ureter stricture to this condition. Suffice it to say that in my opinion many of these cases represent the lighting-up of an ancient infection, that many of these women have strictures, and that practically all of them, particularly in the post-partum state, who do not respond to simple measures surely have stricture.

A fourth group includes blood-borne infections from remote foci of infection such as teeth, tonsils, et al. It may seem a bit fantastic to consider an infection being carried from a tooth-root to some particular segment of the ureter, yet it is no more remarkable for this to occur than it is for the infection to be carried to the renal cortex, to the knee-joint, or to produce a

boil in some particular spot on the back of the neck.

One might include still another group such as the congenital narrowing which is occasionally noted at the ureter meatus, the intramural portion, or any other part of the ureter. This paper does not include a consideration of stricture caused by tuberculosis, nor does it include kinks. These cases should be considered as an entirely separate problem.

I shall not undertake a detailed discussion of symptoms. They are, of course, extremely variable. They may be very similar to those presented by cases of ureter calculus. Some cases will present as the only symptom repeated attacks of ureter colic with entire absence of any symptoms in the intervals between attacks. I have had several such cases, all of them readily and permanently relieved by dilatations. Frequency and urgency of urination may be the most prominent or only symptoms noted. Stricture of the ureter should be borne in mind as a possible factor in searching for a cause for this annoying complaint. Even today the diagnosis of trigonitis is made altogether too frequently by men who know better. I believe we all agree that trigonitis, like cystitis, is usually a symptom and not a disease. Stricture of the ureter will account for a few of that gradually narrowing group of so-called essential hematuria. In later cases when hydronephrosis exists as a complicating factor there may be a dull pain in the loin occasionally referred through to the corresponding hypochondrium. The greater number of cases complain of a dull pain in the groin which may or may not be referred along the course of the ureter to the meatus or down the under side of the thigh. This pain is usually fairly constant and steady although there may be minor exacerbations such as are frequently noted during the menstrual epoch. The urine may or may not be infected. It is well to remember that clear, sterile urine does not exclude stricture. Some cases may present all of these symptoms at one time or another. Not infrequently reflex digestive disturbances of one sort or another are noted. This fact should be borne in mind when considering a possible diagnosis of that very definite but very much overworked lesion, chronic appendicitis. Many, perhaps most of these patients will show an area of tenderness to deep palpation along the border of the rectus muscle for a short distance above and below the sacral promontory. This is rather mesial to the point of greatest tenderness noted in cases of appendicitis, and above that noted in tubo-ovarian trouble.

This brief outline of the symptoms and etiology is enough to attract our attention to the possibility of ureter stricture if one but bears it in mind. I do not pretend to say that every patient presenting this clinical history is suffer-

ing from stricture of the ureter, but I do maintain that every patient with such a story is entitled to a thorough and careful investigation for the purpose of confirming or refuting such a possibility. There again I repeat:—You won't find strictures if you don't look for them.

With the lesion in mind the diagnosis is readily established. Hunner, as you all know, makes his diagnosis with a wax-tipped bougie passed through a Kelly cystoscope, depending upon the catch or hang noted as the bulb is withdrawn through the stricture area. While



FIG. 12.—Very tight stricture at lower end. Extremely difficult to pass at first examination. This patient had constant ache in groin and loin, together with bladder irritability and mild pyuria. He has also a well-marked seminal vesiculitis which may well have been the cause of his ureter stricture. The aches in the loin and groin have been entirely relieved by ureter dilations. His other symptoms are improving under massage of the vesicles and appropriate treatment directed to the posterior urethra.

this method is entirely satisfactory in Hunner's hands, nevertheless I believe this item has been a factor in delaying a more general recognition of the lesion, partly because the bulb is not so convenient to use through the lens type of cystoscope which most of us employ and partly because Hunner in his early communications had very little X-ray evidence to support his contentions. I make my diagnoses by a combination X-ray and cystoscopic examination as an integral part of our routine urological examination. For several years I have done all of my diagnostic urology in the hospital; that is, in all cases where there is even a suspicion of a lesion above the bladder. Private patients are advised to go into the hospital the night before and to remain until the morning after the examination. Clinic patients report at the appointed hour prepared in the usual manner for an X-ray of

the urinary tract, and return to their homes immediately after the examination. The idea is of course to make a diagnosis, whatever the lesion may be, at one sitting, and we are successful in a fair proportion of our cases. An observation cystoscope is passed into the bladder distended with urine, and the bladder specimen allowed to run through the instrument into a sterile tube. This specimen is sent to the laboratory for routine examination, including culture and animal inoculation. The bladder is then emptied and irrigated, if necessary. Beginning with an empty bladder, the irrigating fluid is turned on and a careful inspection of the bladder is made while it is gradually expanding. We feel that this little point is of some importance and that pathological lesions are occasionally noted which might be missed if our inspection were begun with a fully distended bladder. This part of the examination completed, the observation telescope is withdrawn and a catheterizing telescope threaded with No. 5 opaque catheters introduced, and the catheters are passed to the kidney pelvis on each side. In stricture cases it will occasionally happen that a No. 5 will not pass and we may have to use a smaller catheter. Rarely we are unable to pass any instrument at the first trial. It is well to note at this time that the mere fact that a No. 5 or No. 6 catheter passes readily to the kidney by no means excludes stricture, although many times an obstruction is noted and passed by with a little manipulation. With both catheters in position the patient is wheeled into an adjoining room where specimens are collected and functional tests done. He is then wheeled into the X-ray room immediately adjoining, where plain pictures are made and in every case a pyelogram and ureterogram of the side under suspicion. The opaque solution (we employ 15% sodium iodide) is injected slowly into the kidney pelvis, stopping at the first sign of discomfort; a picture is now made of the renal pelvis. Then with the plate in position and the radiographer standing at attention the catheter is gradually withdrawn, injecting the solution at the same time. The catheter is withdrawn entirely from the body and the ureterogram made immediately. I believe these pictures are more illuminating and more convincing than those made with the catheter still in the ureter. Of course this is more of an examination than many patients require, but by doing it routinely I feel that we pick up conditions which might readily be overlooked otherwise. Included in conditions which might otherwise be overlooked are strictures of the ureter. We now have a fairly accurate picture of the renal pelvis and distended ureter, and points of narrowing and angulation are readily noted. Some of our critics say that these points of narrowing represent part of a peristaltic wave. Perhaps some of them do, but when they occur at the same spot on repeated examinations the



evidence of stricture seems to my mind very convincing. Moreover we flatter ourselves that we can recognize peristaltic waves as shown in a ureterogram. These points can be best shown in the few slides which follow.

The treatment of stricture of the ureter is gradual dilatation, exactly the same as treatment of stricture of the urethra, except of course it must be done through a cystoscope. It may be necessary to start with a filiform bougie, gradually increasing the size up to 6—8—10—12, French, depending upon the requirements of the individual case. I do not carry the dilatation as high as Hunner does with his cases and I am not altogether convinced that it is necessary or even wise. It is well after each treatment to instil a small quantity of 25% argyrol solution. Treatments may be repeated at intervals of one, two, three or four weeks, depending upon the tolerance of the patient to cystoscopic manipulations. This procedure is carried out in the office or dispensary, and usually entails very little discomfort on the part of the patient. Not infrequently, however, the treatment is followed by a sharp reaction coming on a few hours afterward, and lasting for several hours or several days. This reaction takes the form of tenesmus and pain over the kidney and ureter. It is readily relieved by the usual measures. I employ for dilating large catheters and bougies, and for the higher degree of dilatation the dilator of Walthour, consisting of a series of olivary metal bulbs arranged in tandem fashion behind a silk elastic bougie. Bougies up to 10, French, may be readily employed through the ordinary type of Brown Buerger instrument in common use. The use of large instruments is greatly facilitated by the new operating cystourethroscope recently devised by McCarthy. I do not employ dilators of the Koolman type and feel that they are not free from danger.

In conclusion, this brief paper has merely touched upon a few of the high lights of this very interesting subject and is presented with two ideas in mind; first, to promote discussion, and second, in the hope that it may encourage some of you who are still skeptical to approach the matter with an open mind and really look for strictures of the ureter. I have talked so much about the subject to my colleagues at the Brooklyn Hospital that the general surgeons and the gynecologists would not consider opening an abdomen for a doubtful gall bladder or appendix or tube without first submitting the patient to us for a urological survey. As a result of this we are getting a lot of material, we are finding a number of ureter strictures, and we are saving many patients from needless operations. I am confident that a proper appreciation of this lesion will accomplish several things. It will often provide a simple solution of what might otherwise appear to be

obscure problems. It will save a great many patients from needless, useless, and actually harmful operations. It will conserve many kidneys which if not provided with adequate drainage might go on through the varying degrees of hydronephrosis, infection, pyonephrosis, and eventual destruction. This I believe to be the most important single item in connection with the whole matter: Conservation. As someone said of amputation in its relation to general surgery, so we may say of nephrectomy in its relation to urology: it is the opprobrium of our art. We should aim to conserve kidneys by recognizing and treating lesions which might lead to their destruction, rather than take them out when the damage is done. I am sure that urologists of the next generation will do fewer nephrectomies than we are doing, partly because of a better appreciation of stricture of the ureter.

Discussion of Dr. Rathbun's paper:—

DR. J. H. CUNNINGHAM: I think everybody will agree that we have heard a perfectly clear, honest, instructive communication. I don't doubt there is much to be said on it.

DR. G. C. SMITH, Boston: It seems to me that if any paper would be calculated to shake the self-possession of skeptics, Dr. Rathbun's paper would. I have been interested in his pictures, and it seems to me he has shown definite strictures. Some of his pictures seem to show the type of megaloureter which is due to a fibrosis of the ureter in its passage through the bladder wall, for which Dr. Caulk has advocated the cutting back of the ureteral orifice. I think that has been a definite type of case of which Dr. Rathbun has had about six. Then there were strictures of the upper part in which the ureter was dilated above, and the ureter was of a normal calibre below, of which there was no doubt. And then there was another group in which this stricture wasn't so clear. I could see no difference between those and normal ureters with peristalsis. He pointed out some areas three or four inches long; you can hardly imagine a stricture of that length being due to a definite pathological condition in the ureteral wall. This would mean that the ureter would be a fibrous tube, and it would be difficult to see how the passage of a catheter would give any definite relief or change the pathological conditions.

Another point that puzzles me a little is this: in those cases of megaloureter where there is an obvious obstruction at the bladder wall; the ureter is dilated up to the pelvis in a solid column. In some of these other cases where there is an alleged stricture low down, the ureter is of varying calibre. Why is not the ureter dilated all the way up?

Another point—if stricture of the ureter is of such common occurrence, why don't we see more cases at autopsy where there is a perfectly definite stricture with a dilatation above?

I think there is a great deal of meat in this

paper and we will look for these things more definitely now than we have done before.

DR. QUINBY, Boston: The paper of Dr. Rathbun has been very interesting and stimulating. I have thought a good deal about the subject of stricture of the ureter, as I do not doubt you all have. Personally, however, I have had no actual experience with such conditions, principally because I know of no method today by which stricture can be surely demonstrated beyond criticism.

In view of the fact that very little has been known or done concerning the function of the normal ureter, we began several years ago to interest ourselves in this subject at the Laboratory of Surgical Research at the Harvard Medical School, and a number of papers have been published dealing with one or another aspect of this subject, the most recent one being by our fellow member, Dr. Graves. This work has shown that in a good many respects the ureter can be compared to the intestine in so far as peristalsis and the inhibition of this are concerned. Thus far the diagnosis of ureteral stricture in man has depended on two methods, that of the passage of instruments with bulbs on them, in a way similar to the method of calibration of the male urethra, and secondly the method which Dr. Rathbun has shown us in his slides tonight of X-ray of the ureter which has recently been filled with an opaque fluid. The results of both of these methods are open to criticism. Evidently we must still study our cases harder; and as a method of further investigation I have recently had installed at the hospital a cystoscopic X-ray table containing underneath apparatus for making fluoroscopic observation of the ureter as it fills and as it empties. Also, the apparatus has an adjustment for the exposure of a film aided by the Buckey diaphragm. The use of this, I hope, will give us more evidence than we have thus far been able to obtain in regard to the function of the ureter. Only when we know more about the conduct of the normal ureter, will we be able to interpret films accurately, such as Dr. Rathbun has shown us.

For instance, I am not convinced that the long linear narrowings of the ureter shown in Dr. Rathbun's films are due to stricture. It seems to me much more probable that they are due to hypertonicity of the ureter following the passage of the catheter and the introduction of the opaque fluid. The ureter is much like the intestine. No radiologist would think of making a diagnosis of stricture of the intestine on the evidence of such a narrowing of the bowel;—for you know well that manipulation of the intestine causes it to constrict. If you pinch the intestine this is followed by a circular constriction, and this causes inhibition of peristalsis for a considerable distance above as well as below the area. This is well known to happen in instances of intestinal obstruction.

I am much indebted to Dr. Rathbun for his

paper, and I wish to emphasize that I have no doubt whatever that stricture of the ureter as a concrete condition does exist, but up to the present by far the strongest proof of its existence is not pictures such as you have just seen, but the clinical proof of cure. The patients get well without any question, and they get well in fairly large numbers. This result in some instances may be due to the removal of infection. In others it cannot be explained on that basis, and I think we must admit the possibility of stricture, although at present I am unable to make a clinical diagnosis of the condition.

DR. J. D. BARNET, Boston: I think that Dr. Rathbun has presented a thoughtful and carefully worked out argument that ought to convince the most skeptical, and I hope his arguments will be confirmed later. In view of the comparative lack of pathological material obtained at autopsy or operation it might be of interest to mention a brief experience of my own. I had a case of a woman with a stone of small size, in the lower ureter just above the bladder, and after repeated effort to get it out, it was decided to operate. I may say that during the course of the investigation it was found that the ureter was of about normal size up to the sacroiliac joint, and then suddenly blossomed out into a big affair up to the kidney pelvis. We thought that there was no question but that there was a stricture at that point, I did a median incision and exposed the ureter down to the bladder and took out the stone without trouble. Then to test out the situation I passed a No. 16 bougie through this portion of the ureter up to the point where the sudden cessation of normal ureter was shown and the dilatation began, and I was surprised to find that the No. 16 bougie passed readily. The ureter was soft and normal, and there was no hindrance to the passage of the bougie. Certainly if it was a stricture, it dilated very readily and was unlike the strictures you see in the urethra. I mention it because it might have influence on future investigations.

DR. A. L. CHUTE, Boston: I am very much indebted to Dr. Rathbun for his paper. I do not know when I have listened to so interesting a paper, but in spite of this I cannot accept all his views. We see many ureterograms that show the lower ureter to have a spindle shape. I am not convinced of that being a pathological narrowing. Dr. Rathbun has shown many tonight that in my opinion simply represent a spasm of the ureter or something of that sort. Then there are the ureters where the dilatation starts above and extends part way down the ureter. I believe these represent an extension to the ureters of an inflammatory process that began in a kidney—that there is a lack of tonicity of the infiltrated ureter and that this dilatation is due to the muscular action of the kidney pelvis on a ureter that has lost its tone, and is not due to the obstruction offered by a stricture of the ureter. I

am convinced that we have strictures of the ureters, such for instance as follow an impacted ureteral stone, but I do not believe they are common.

There are things we cannot explain satisfactorily, as for example the relief that some of these patients seem to receive from the passage of a ureter catheter. Most of these patients are women and some of them are evidently neurotic: I am not convinced the relief they receive is due to the dilatation of a definite narrowing of the ureter. The subject is an interesting one; one concerning which I want more light; I want especially to see ureterograms of the pelvic ureter after Dr. Rathbun has cured some of those patients. I believe they would appear much the same. I want to thank Dr. Rathbun for the pleasure his paper has given me.

Dr. J. W. KEEFE, Providence: I am not as skeptical about this subject as some of my confreres. I am rather inclined to feel that Dr. Rathbun has something worth while. As Dr. Quinby said, "the proof of the pudding is in the eating," many of these cases Dr. Rathbun has improved and many he has reported as cured. It is possible that we have laid too little stress on these strictures of the ureter. It is possible that we haven't been inclined to use bougies, yet we know that in stricture of the urethra we may be able to pass quite a large sound, and yet if you use an olive tipped bougie, we can determine that there is a stricture of large calibre that is producing the symptoms complained of. We all know that this is one of the important methods of determining whether you have or have not strictures of the urethra. Now, have we been using olive bougies in the ureter?

Dr. Rathbun remarked that at Johns Hopkins, Drs. Kelly and Hunner used the Kelly cystoscope in doing cystoscopy in females. I am persuaded that with the Kelly cystoscope you can pass the olive bougies more readily than with the water cystoscope. Now the fact is that urologists use the water cystoscope, and on account of the difficulties I doubt whether these men have used the olive bougies.

So it seems to me before we can determine a stricture in the ureter by passing an ordinary ureteral catheter, that we ought to pass a bougie, olive-tipped or covered with wax, such as Dr. Hunner has been in the habit of using. It seems to me that Dr. Rathbun has given us some food for thought; and I wouldn't be surprised to find that in a year from now, we will have a different view of this matter in this Society.

Dr. GEORGE G. SMITH, Boston: I had a thought—to explain the relief which these patients get after the passage of a ureteral catheter—might it not be possible that delicate adhesions have formed outside of the ureter holding it in place, and by straightening the ureter by the passage of a catheter the adhesions are

broken and the ureter is swung into a straight line? There might not be a stricture but a drag on the ureter. I don't see how the passage of a catheter would give relief to a stricture but it might to a condition like that.

Apropos of the remarks which Dr. Smith has just made, I wish to recall to the attention of the members one constant event which follows interference with ureteral peristalsis. If one lays a silk thread, or better, a loose rubber band ligature around an animal's ureter, just in contact with the tube but not tight enough to cause constriction, there follows later a dilatation of the ureter and hydronephrosis above, although the lumen of the tube has not in any way been lessened. Peristalsis, however, has been interrupted, and this interruption acts like a stricture in its results on the urinary tract above. On examining such a ureter later under the microscope no evidence whatever of organic stricture is to be seen; there is no round cell infiltration, and no narrowing, but the function of the tube has been interfered with. This is a matter which can be demonstrated constantly in the laboratory.

Dr. J. H. CUNNINGHAM, Boston: I feel that the Society is very fortunate in having this subject so clearly and convincingly presented. That all do not accept unconditionally every fact presented by Dr. Rathbun is not surprising.

There is no question however, that the large number of slides which we have just seen show a narrowing at some point in the lumen of the ureter with dilatation of it, and the kidney cavity above the point of the ureteral narrowing. That Dr. Rathbun is able to show so many examples of this condition is due, in large part, to the manner of making the investigation.

A pyelogram with the catheter still high in the ureter, or in the kidney pelvis, will fail to demonstrate the lesion under discussion, and the only way that it may be portrayed on an X-ray plate is to withdraw the catheter during the injection of the pyelographic medium, so that a ureterogram without the catheter in the course of the ureter is made, together with the pyelogram.

This feature of technique Dr. Rathbun has described, and I simply wish to emphasize it.

Whether the ureteral narrowings, as shown by Dr. Rathbun, are due, first, to renal infection, with secondary infection of the ureter and narrowing of it at a given point by repair of this infected area, or whether the ureteral narrowings are primary in the ureter from some other cause, with secondary dilatation and infection above, must, I believe, remain a debatable point for the present.

The significant thing to me in Dr. Rathbun's paper is that the recognition of the ureteral narrowing by the means of ureter-pyelography, and directing treatment to dilating the constricted area, has given relief of suffering and

apparently has cured a large percentage of his cases.

I think that Dr. Keefe is probably correct in what he has said about our qualifying our critical attitude in regard to the existence of ureteral stricture, and what may be done to relieve symptoms dependent upon it.

As President of this Society, I wish to express the appreciation of all for Dr. Rathbun's most instructive communication.

DR. N. P. RATHBUN, Brooklyn (closing): I want to thank you for your discussion. I think you have handled me charitably.

Taking up the points that have been raised:—Dr. Smith takes up the matter of megaloureter which Dr. Caulk reported. I think you will find in Dr. Caulk's paper that a "No. 6 catheter passed, therefore eliminating stricture of the ureter." That to my mind doesn't eliminate stricture. As Dr. Keefe said, if you are going to make a diagnosis of stricture of the urethra, you will not do it by passing a No. 30 sound. In all cases you will pass an olive-tipped bougie and get a hang. I think those cases of Dr. Caulk's were strictures. These cases of long strictures, high in the ureter, I am doubtful of those myself. Those cases are cases in which I haven't had an opportunity to follow to see what results I could get from dilatation. They were all associated with pyelitis, and it may back up Dr. Chute's statement that they were primarily pathology higher up.

The question about autopsies Dr. Smith made:—why don't we find them at autopsies? I maintain that the strictures of the lower ureter haven't been investigated way down near the bladder and are often overlooked. I agree with him that in the cases where the simple passage of the catheter gave relief, the relief is due

to action on a periureteritis—I think he is right about that.

Dr. Barney cited the case where he operated from above and passed a sound down. I don't think that excludes stricture. I think you do get the dense fibrosis in the late cases, but I believe that you could pass a conical shaped bougie through a stricture of the ureter without exercising force in an early case.

Dr. Chute makes the point that he has found these peculiar conditions on the wrong side. I think that the wrong side is the right side. These are often bilateral, and you find similar conditions on both sides. I believe that one of these days I am going to convince Dr. Chute.

Dr. Quinby's equipment I saw this afternoon and I believe it is going to be a great help. I believe if I come here later, I will find Dr. Quinby an earnest supporter. I believe he is going to get some evidence from these observations. If these are peristaltic waves—in many of these patients we have taken repeated pictures to check up, and we found the same condition at the same point. I don't believe you can get the coincidence of the peristaltic waves at repeated examinations.

Then he also made the point that the clinical history is more convincing than the plates, you have got to have time to study the plate; and looking at a slide for one or two minutes doesn't mean much.

I want to thank you for the courteous manner in which you have listened to me, and in conclusion I want to say:—bear in mind that this condition may exist and look for these things and treat your patients on the supposition that they may have strictures of the ureter and see if you don't get results.

ADJOURNMENT.

## MEDICAL PROGRESS

### Progress in Syphilis

BY AUSTIN W. CHEEVER, BOSTON

THE most notable new ideas presented during the year 1923 are in the treatment of central nervous system syphilis, namely the use of tryparsemide in all forms of neuro-syphilis, and malaria, after a short time cured by quinine, in general paresis. Good reports of the use of sulpharsphenamin and bismuth still appear in considerable numbers. The sodium thiosulphate treatment of poisoning by the heavy metals may prove to be of considerable value.

#### GENERAL

Hinton<sup>1</sup> presents the results of Wassermann tests in over 10,000 cases of pregnancy taken in four Boston hospitals; this should give a fair

estimate of the prevalence of syphilis among this class of patients, as they came to the hospital for a physiological process. The figures run from zero in a small number of French and Germans, through 2.8 per cent. in the Russian Jew, 3.8 per cent. in the Irish, to 5.3 per cent. in the English, 8.18 per cent. in the Scotch, and 33.3 per cent. in the negro. He compares the above figures with 1.08 per cent. in 3701 U. S. Naval Aviation students and 49.19 per cent. in 862 inmates of the Massachusetts Reformatory for Women. Belding<sup>2</sup> in a study of 5000 routine Wassermann tests in maternity cases in Boston found about 14 per cent. showing a definitely positive reaction; there were few who



showed any evidence of syphilis. Syphilis was shown to have caused directly or indirectly from 30 to 40 per cent. of the previous foetal deaths; the offspring are more seriously affected when the syphilis in the mother is clinically evident and when the reaction is a strong rather than a weak positive. Untreated mothers with a history of clinical syphilis and positive Wassermann tests may produce as high as 60 per cent. of children apparently healthy during the first four years of life. Thaler<sup>2</sup> found a positive Wassermann reaction in 4.7 per cent. of the women at the First Obstetric Clinic at Vienna.

#### THE WASSERMANN REACTION FROM THE CLINICAL POINT OF VIEW

Keidel and Moore<sup>4</sup>, from Baltimore, report 14.2 per cent. positive Wassermans (7.6 per cent. of the white patients and 22.9 per cent. of the negroes) among 45,000 serums tested since January, 1918. They urge routine Wassermann tests on all patients in hospitals.

Christensen<sup>5</sup> found 10 transitory positive Wassermann reactions in 110 cases of scarlatina, but only with the cholesteralized antigens. He states that a strongly positive Wassermann reaction during this disease is as good evidence of syphilis as at any other time.

McConnell<sup>6</sup> reports a case of malaria who had a 4 plus Wassermann reaction during the febrile stage of the disease, which was not treated as it was thought to be due to malaria, but syphilitic lesions were found in the aorta at necropsy.

Gratiot<sup>7</sup> reports on the routine Wassermann test in ophthalmology of 676 patients. 155 were positive for syphilis. All diseases of the cornea (except trauma) were subjected to the blood test as a routine. In cases coming for the relief of symptoms attributed to eyestrain, which presented unusually severe symptoms, in most cases headache out of all proportion to the refractive error found, the Wassermann test yielded 5 positive out of 56 cases. One-fifth of the cases of diseases of the cornea gave a positive Wassermann. Of these, 16 cases were of interstitial keratitis occurring in congenital syphilis. About 38 per cent. of the cases of iritis were syphilitic. Of the 43 cases of primary optic nerve atrophy, 70 per cent. were syphilitic. Ten cases were congenital. He urges the routine use of the Wassermann reaction in ophthalmology.

Smith, C. M.,<sup>8</sup> sums up the subject of syphilis with a negative Wassermann reaction: a negative Wassermann does not necessarily mean that the patient does not have syphilis, and should not determine the diagnosis. Every case should receive a thorough clinical as well as serological examination. Certain groups of known syphilis will consistently yield some negative Wassermann reactions. These may be grouped as follows: 1. Early primary syphilis before the positive phase has developed. 2. Late syphilis,

to be divided into: latent; cases with sharply localized areas of activity, e. g. uveitis, keratitis, ulcerations on skin and mucous membranes, aortitis, etc.; tabes with negative blood and positive spinal fluid; late lues simulating malignancy; ataxia and bladder symptoms with negative blood and spinal fluid. 3. Early infancy (results are notably unreliable). 4. Late congenital, with active skin lesions, periostitis, interstitial keratitis, etc. 5. Certain cases under active treatment with mercury and arsphenamin. The Wassermann reaction should be part of every complete physical examination. While without it only a possible 2 or 3 per cent. of syphilis will be overlooked, to those few individuals the examination is 100 per cent. failure.

Halbron and Barthélemey<sup>9</sup> saw two cases of localization of syphilides by trauma in charwomen with gummata on their knee caps, who were obliged to wash the floors kneeling; one of a ropemaker of 43 with what used to be called "palmar psoriasis," really late lues.

Edmunds<sup>10</sup> reports on some physical surveys made for one of the insurance companies; he found 35 positive reactions in 222 blood Wassermans. The time lost by the 35 employees had been 13,946 days and the cost to the company in money paid out \$50,000. While it cannot be said that syphilis was the sole cause of disablement, it is true that, in those cases complicated by syphilis, the original disablement was prolonged directly by the disease. Nineteen were cases of cerebrospinal syphilis, fourteen of whom were trainmen, and five other trainmen had chronic syphilis. The author suggests that all men exhibiting lapses of memory, failing vision, continued dizziness, erratic conduct, uncontrolled temper, and especially ideas of grandeur, should be thoroughly examined for syphilis. The routine medical examination should be much more thorough in respect to syphilis.

#### EXPERIMENTAL

Rudolph and Bulmer<sup>11</sup> analyzed the arsenic content of the cerebro-spinal fluid after intravenous and intrathecal injection of arsphenamin and found none after the former, or after the latter in therapeutic doses. They believe that the good effects from such injections must be explained in some way other than the presence of arsenic in the tissues.

Underhill and Amatrudda<sup>12</sup> tested on rabbits and cats the amount of arsenic transmitted to the foetus. They found traces in the foetal tissues after neararsphenamin had been injected into the maternal circulation, but the amount did not increase in proportion to the number of injections given; it was shown to be stored in the maternal liver and placenta. This suggests the explanation that the efficiency of antenatal treatment of syphilis in the new-born is that the

spirocheticide acts in greater concentration and more directly on the treponemata in the placenta.

Weidman and Jefferies<sup>13</sup> find that in monkeys the use of paraffin oil as a vehicle is attended with the danger of subsequent tumor formation not dependent on the technic used but probably on individual predisposition, to prevent which the physician should insist that no mineral oils be used in the preparation of mercurials for injection.

Plant and Mulzer<sup>14</sup> carried out experiments with rabbits to test the effect of insufficient treatment and conclude that insufficient treatment of syphilis, especially with arsphenamin, increases the virulence and neurotropism of the spirochetes. They express their opinion that for the above reason no arsphenamin is preferable to insufficient treatment.

While not strictly belonging in his report, the following note may be of interest: Reenstierna<sup>15</sup> obtained a chancreoid antiserum from immunized sheep which is of value for both diagnosis and treatment. He reports numerous cases with very encouraging results.

#### LABORATORY

Warthin and Wanstrom and Buffington<sup>16</sup> have worked out a modification of the Warthin-Starry silverstain method of staining treponemata which is applicable to clots formed in spinal fluid by the Alzheimer method of precipitating with alcohol and centrifugalizing. Fontana<sup>17</sup> describes the following method of staining treponemata by neo-arsphenamin. The specimen is dried on a slide in the air, then steamed for 30 seconds on a low flame with 0.75 per cent. fresh solution of neo-arsphenamin, washed, heated with 1 per cent. of ammoniated silver nitrate for 30 seconds, washed, dried, and mounted. The treponemata are stained brown.

Cotellessa<sup>18</sup> examined the milk of 89 syphilitic and 21 non-syphilitic mothers and found that with 0.5 cc. and 1 cc. of milk the Wassermann reaction gave results parallel with the serum. He used Rusca's technic of removing the fat by centrifugalization.

#### "LOCAL" WASSERMANN REACTION IN PRIMARY SYPHILIS

Stern and Rypens<sup>19</sup> report the results they have obtained with the Klauder and Kolmer "local" Wassermann test made on the surface serum of primary lesions. Out of forty-three cases, the blood Wassermann was positive in only thirteen, or 30.2 per cent., and negative in thirty. The dark field was positive in all but two cases. The "local" Wassermann test was positive in all cases. The test was negative on the serum from five proved nonsyphilitics. Treatment of the lesions with antispirecheticides does not interfere with the reaction.

The authors hold that the "local" Wassermann test is a simple and practicable diagnostic procedure in chancres, and the reliability of the results obtained is comparable to those obtained by the dark field microscope.

#### EARLY SYPHILIS

Dumet<sup>20</sup> reports the case of a mother infected in the eighth month of pregnancy, the child developing five primary sores on the head by contamination during birth.

Laurent<sup>21</sup> reports the case of a patient who developed recurring contagious lesions after the Wassermann reaction had been six times negative during more than a year following intensive early treatment. The lesions cleared rapidly with resumption of treatment.

Grütz<sup>22</sup> reports an epidemic of extragenital syphilis; of a threshing machine crew of 24 in Holstein, fifteen developed tonsillar primary lesions from one of the crew who had infectious syphilis, in his case of genital origin.

Chompret<sup>23</sup> reports a case of chancre of the gum, of unknown origin, located in the upper left incisor region in a young girl, the left submaxillary lymph nodes being involved. The result of a dark-field examination was positive.

#### REINFECTION

Gougerot and Fernet<sup>24</sup> report a case with primary and secondary syphilis in June 1922, who had one course of treatment with bismuth consisting of thirteen injections of trepol totalling 3.2 gm., and disappeared. In April 1923 he returned with a fresh primary lesion in which treponemata were found, and a negative Wassermann reaction which soon became positive. Parounagian<sup>25</sup> presented what seems to be a genuine case of reinfection at the Feb. 6, 1923, meeting of the New York Academy of Medicine, section on Dermatology and Syphilis. Thompson<sup>26</sup> reports a case twice seen by him with primary lesions, one in 1916, the other in 1923, and who gave a good history of a previous chancre in 1911 diagnosed by a competent observer. Hecht<sup>27</sup> also reports a third infection following considerable treatment of the first two. Arève<sup>28</sup> reports a case who had intensive treatment for six months following his first primary, then acquired another in a different place, after a negative Wassermann reaction and while having a course of gray oil injections. The incubation period was supposed to be 48 days.

#### PROPHYLACTIC TREATMENT

The U. S. Navy<sup>29</sup> has tabulated nearly 245,000 prophylactic treatments. After treatments given during the first hour after exposure 2.2 per cent. of infections took place; after those given during the second, 3.1 per cent.; third hour, 4.3 per cent.; fourth hour, 5.2 per cent.; sixth hour, 6.2 per cent.; after six to twelve hours, 6.4 per cent.; over twelve hours, 8.4 per cent.

Heden<sup>30</sup> at the Fifth Congress of the Northern Dermatological Society held in Stockholm, June 1922, reported having treated with prophylactic arsphenamin injections 36 patients who had had intercourse with syphilitic persons. None of them developed syphilis. Hecht<sup>31</sup> reports four cases in which no preventive treatment was given after contact with a known syphilitic—all developed syphilis. He compares these cases with five others similarly exposed who were given a prompt course of nearsphenamin and did not develop the disease.

#### LATE SYPHILIS

Adair<sup>32</sup> reports one case of gumma of the breast in 1674 cases operated on for carcinoma. He reviews the literature of this rare condition. Rejssek<sup>33</sup> reports 2 cases of syphilitic mastitis; one woman, whose syphilitic infection was apparently congenital, presented several rather tender, movable egg-sized nodules in both breasts, of several months' duration; a second patient, infected with syphilis during pregnancy, developed a unilateral, nodular mastitis, as a part of a secondary syphilitic eruption. In both cases the serologic test was positive, and both responded well to antisiphilitic treatment.

Kemp<sup>34</sup> reports 4 cases of syphilis of the orbit, a rare condition, characterized by nocturnal pain, paralysis of the extraocular muscles, unilateral exophthalmos, pain on pressure over the affected bulb, disturbances of vision, and sensory disturbances in the distribution of the first and second branches of the trigeminal nerve. If treated early, results are usually brilliant.

#### THE CENTRAL NERVOUS SYSTEM

Jersild<sup>35</sup> tested the diffusion of uranin, a red dye, in the spinal fluid of syphilitics. Five grains were given by mouth 3 to 4 hours before spinal puncture to 23 control cases and to 231 syphilitics. In the nonsyphilitics, uranin was found in the spinal fluid of 8.7 per cent. In the syphilitics it was found in 23.5 per cent., or almost three times as many. The figures lead one to suppose that a certain relation exists between the permeability of the meninges and their pathologic state.

Stern<sup>36</sup> reports further experiments on artificial changes of the "hemato-encephalic barrier." Chronic intoxication with alcohol, morphine, or arsenic did not diminish its resistance. Acute intoxication with bacterial toxins (diphtheria, tuberculosis, tetanus) increased the permeability of the barrier for substances present in the blood. She believes that this fact might be utilized by therapeutic introduction of substances which otherwise would not pass into the cerebrospinal fluid.

Calman<sup>37</sup> reports a case of typical headache after five unsuccessful attempts to do a lumbar puncture. He believes therefor that the headache is caused by meningeal irritation and not

by loss of cerebrospinal fluid, as no fluid had been drawn in this case.

Jacobaeus and Frumerie<sup>38</sup> report two cases with severe reactions following lumbar puncture who were given from 35 to 90 cc. of normal saline solution with immediate recovery.

Ayer<sup>39</sup> reports on 1985 punctures of the cisterna magna. His indications for its use in syphilis are in the serum treatment of cerebral syphilis and for obtaining fluid for examination when elsewhere impossible or inadvisable. He considers the procedure safe when done with due care by those who know the anatomy of the region and have had sufficient previous experience on the cadaver.

Thurzo<sup>40</sup> injects air by lumbar puncture the day before he gives the intravenous injection of the arsphenamin preparation in treatment of neurosyphilis. This preliminary irritation of the meninges prepares them better, he thinks, for the action of the drug.

Solomon, Pfeiffer, and Thompson<sup>41</sup> report on an initial fall in cerebrospinal fluid pressure readings and their method of obtaining a standard. When lumbar punctures were performed with the patient lying tense and flexed on the side, the pressure was found to be much higher at first than after the lapse of ten minutes. A fairly rapid fall occurs soon after the insertion of the needle, which gradually becomes slower and reaches a stable equilibrium in about ten minutes in the majority of cases. The factors influencing the rise and fall of pressure are the position and tension of the patient, apprehension, talking, coughing, etc.

Leyberg<sup>42</sup> analyzed 375 patients to determine the value of spinal fluid findings in incipient, florid, locally recurrent, and early latent syphilis. The cases ranged from the earliest period to the end of the fifth year after infection.

*The pre-exanthematous stage of lues.* By a study of these cases it was found that infection of the spinal fluid could take place in this stage, although relatively seldom (7.8 per cent.). Pleocytosis is the most frequent sign of spinal fluid infection in this stage (7.8 per cent.). The globulin reaction seems to occur seldom (2 per cent.). A positive Wassermann reaction of the spinal fluid was not found in any of these cases.

*The exanthematous stage.* Infection of the central nervous system, according to the spinal fluid findings, existed only in one-third of these cases. In comparison with primary syphilis, the proportion is much greater. Pleocytosis is the most frequent and characteristic reaction in this stage (27 per cent.). The Wassermann reaction appears relatively seldom in this stage (14 per cent.).

*Stages of local recurrence.* Differing from the other stage where pleocytosis occurred more frequently and especially as an isolated reaction, here it appears usually with other reactions, as also the globulin reaction. Where clin-

real evidences of affection of the nervous system were present, it was always found. The Wassermann reaction appeared most frequently in this stage.

*Latent lues.* Pathological spinal fluid could be demonstrated less often in this stage than in the stage of secondary local recurrences. Here we find pleocytosis least often (11.5 per cent.), the Wassermann reaction most often (25 per cent.). The globulin reaction commonly accompanies the organic nervous manifestations.

Stokes and Brown<sup>43</sup> analyzed the records of 200 syphilitic patients whose chief complaint was "stomach trouble." Of these, 140 had neurosyphilis, 20 had gastro-intestinal lesions, 9 had cardiac lesions and 8 had gastric syphilis. Only 36 per cent. had had a previous diagnosis of syphilis and but 10 per cent. had had spinal fluid examinations, although 59 per cent. of the spinal fluids were positive after admission. There is a considerable discrepancy between the blood and the spinal fluid Wassermann tests, 70 per cent. of negative blood reactions having positive spinal fluid tests. Even negative blood and spinal fluid tests did not exclude neurosyphilis, as 12 patients had definite gastric crises. Many of these patients had had needless operations performed, as definite symptoms and a history of syphilis were present in most of them before operation.

Moore and Keidel<sup>44</sup> report three families containing 11 individuals who contracted syphilis from different sources and at different dates and all of whom developed neurosyphilis. These cases can best be explained on the basis of familial predisposition.

Moore and Kemp<sup>45</sup> report a study of 113 marital partners of 111 neurosyphilitic persons. Of the 60 spouses of tabetic and parietic persons, about two-thirds were syphilitic, of whom 57 per cent. had neurosyphilis. Among the partners of patients with late cerebrospinal syphilis, the incidence of syphilis was high, but of neurosyphilis, low, 28 per cent. The incidence of neurosyphilis is no higher in the partners of persons with cerebrospinal syphilis than in a like number of unselected cases, but in partners of those with parenchymatous neurosyphilis it is more than twice as high.

Bab<sup>46</sup> had 26 cases of primary syphilis seen by an aural specialist as soon as the diagnosis was made by the dark field. The auditory nerve was found already involved in 75 per cent. even though in many cases the Wassermann reaction was not yet positive.

Lippman<sup>47</sup> noted the beneficial effect of sodium bromide intraspinally when it was used with intent to throw a shadow on the X-ray plate. Later he used it for its therapeutic effect, injecting 10 cc. of 1 per cent. solution in tabs, 10 cc. of 1.6 per cent. solution in spastic cases. The interval was about 14 days, 3 injections only being given. The bromide is usually

well tolerated, though sometimes a transient chemical meningitis is excited. Out of 5 cases, two improved well, one improved, one was not helped, one died of coronary sclerosis.

Wynn<sup>48</sup> reports two cases of paresis who had had considerable intravenous and intraspinal treatment until the cerebrospinal fluid was negative, and yet who later developed typical clinical paresis with negative spinal fluids, showing that so-called precision methods should not replace but should augment careful clinical study of cases.

Goria<sup>49</sup> says the effect on one case of general paresis treated by the combination of tuberculin and bismuth was so striking that he does not wait for further confirmation before advising others to give this treatment a trial. The treatment at first aggravated the symptoms, but this was followed by their complete subsidence, and the woman has resumed her ordinary life. There has been no change in the Wassermann reaction in serum and spinal fluid, but the other reactions in the fluid disappeared as improvement progressed.

#### MALARIAL TREATMENT OF GENERAL PARESIS

Wagner<sup>50</sup> of Vienna, noticing the beneficial effects on patients with general paresis from the use of certain chemicals, tuberculin, etc., which produce temporarily a high temperature, tried infecting such patients with tertian malaria, allowing about a dozen "chills" to occur, then curing the malaria with quinine, at the same time starting a course of weekly arsphenamin injections. For a time the mental symptoms may be worse, but soon a remission is to be expected, while the serological findings may not improve or may do so only after some months. This form of treatment should be carried out only in a hospital properly equipped to absolutely control the malaria and should not be given to those who are sensitive to quinine. Potzl<sup>51</sup> found distinct improvement in the cerebrospinal fluid and general condition of patients inoculated with malaria. He considers it as the best treatment available. Dattner<sup>52</sup> deals with the technic and results of malaria treatment of general paralysis. He mentions its use also recently with good results in secondary and latent syphilis with positive cerebrospinal fluid. Worster-Drought and Becole<sup>53</sup> report favorable results in 11 out of 12 early cases of general paresis treated by this method; in two cases the improvement was quite remarkable. Pilez<sup>54</sup>, Wagner-Jauregg<sup>55</sup>, Templeton<sup>56</sup>, McAlister<sup>57</sup>, Grant<sup>58</sup> also report on this method of treatment.

#### CONGENITAL SYPHILIS

Stokes and Gardner<sup>59</sup> show that unerupted Hutchinsonian incisors may be shown in some cases by X-ray, thus aiding the diagnosis of some doubtful cases.



Vulovic<sup>60</sup> reports good results from examining for treponema with the dark field microscope scrapings from the inside of the umbilical vein of the cord of the newborn.

Tezner<sup>61</sup> reports on cerebrospinal fluid examination in 25 cases of syphilitic infants; with his other previously reported cases he estimates 43.3 per cent. of positive findings in 83 children. Jeans and Schwab<sup>62</sup> reported at the meeting of the American Pediatric Society their studies of the spinal fluid in 470 congenital syphilitic children. They found that from one fifth to one fourth of all congenital syphilitic children show laboratory evidence of central nervous system involvement.

### THIRD GENERATION

East<sup>63</sup> reports a case of syphilitic iritis at the age of 23; her mother was a typical congenital syphilitic with typical Hutchinsonian teeth and scarred cornea of a previous interstitial keratitis. The girl's father was free from syphilis clinically and serologically. The author presents this as a case of probable transmission of congenital syphilis to the second generation.

### ARSPHENAMIN

Further work is going on in an attempt to perfect the arsenical drugs. Oliver, Yamade, and Kolos<sup>64</sup>, and Oliver, Douglas, and Kolos<sup>65</sup>, report their work in combining arspenamin with hydrophil colloids and gelatin.

Marinesco and Dragulescu<sup>66</sup> report the history of a woman suffering from general paralysis. She had also latent malaria which flared up after six injections of neo-arsphenamin (total 2.4 gm.) and proved fatal. They quote other authors who mention the danger of arspenamin in syphilis complicated by malaria.

Pinard<sup>67</sup> thinks frequent small doses of arspenamin in syphilitic women are dangerous and do not arrest the fetical action of syphilis. Of 228 syphilitic women in his service given one to three series (doses up to 0.75 or 0.9 gm.) of neo-arsphenamin intravenously at intervals of three weeks, during pregnancy, 215 gave birth to living infants at term; a few deaths were due to obstetric causes. In the remainder, treatment had been insufficient or too late. Only thirty-seven of 152 pregnant syphilitic women not treated with arspenamin gave birth to infants who lived after the second day. Having given 5,000 intravenous injections in pregnant syphilitic women, he feels justified in asserting that arspenamin even in large doses does not cause abortion.

Rabut<sup>68</sup> relates some experiences which show that the intramuscular route for injection of arspenamin does not prevent toxic manifestation; two cases developed fatal erythrodermia. The pain from the intramuscular injection is often intolerable and a large nodule may develop, so there is no advantage from using this

route. Noeggerath and Reichle<sup>69</sup> treated eight children with from 0.3 to 0.6 gm. of neo-arsphenamin by the rectum, and arsenic was found in the urine of the first day in amounts ranging from 0.15 to 0.34 per thousand. The absorption depends on the length of time the enema is retained. In infants, for whom this method is especially desirable on account of the difficulty of the intravenous technic, the outcome is a matter of luck.

Rubin<sup>70</sup> reports equally good results and less reactions by using neo-arsphenamin dissolved in 20 cc. of 50 per cent. glucose solution.

### POISONING FROM THE ARSPHENAMIN GROUP

Chargin and Orgel<sup>71</sup> made qualitative and quantitative bilirubin determinations. They found it possible by the use of these tests to predict by abnormally high readings a possible oncoming jaundice as shown in some cases who had successively higher readings after each arspenamin injection until the jaundice finally developed. These tests should help to safeguard patients who are receiving arsenical medication. Kahn<sup>72</sup> advises Ehrlich's urobilinogen reaction, a simple process to determine arspenamin tolerance, since the drug when injected into an oversensitive person produces the first disturbance in the liver function. In this way serious injuries may be avoided.

### CONTRIBUTORY FACTORS IN POSTARSPHENAMIN DERMATITIS, WITH SPECIAL REFERENCE TO THE INFLUENCE OF FOCAL AND INTERCURRENT INFECTION

Stokes and Cathcart<sup>73</sup> review 38 cases of cutaneous reactions of various types occurring in about 44,000 injections of arspenamin. They give 11 case histories in detail and feel that the reactions to arspenamin are not a function of the amount of the drug administered, as they tend to occur early in the course, when very little has been given; that mercury plays no part; that focal and intercurrent infections play a large part, as they found serious and even fatal results associated with generalization of a previously mild dermatitis following the stirring up of a focus of infection, and saw at least one severe case clear up immediately on removal of a focus.

### SODIUM THIOSULPHATE IN ARSENICAL POISONING BY THE ARSPHENAMIN GROUP

McBride and Dennie<sup>74</sup> advise the use of sodium thiosulphate in cases of poisoning by the heavy metals, especially arsenic and mercury, because of the ability of sulphur to render such metals insoluble. They advise intravenously in from 10-20 cc. of distilled water 0.3 gm. of the chemically pure sterile salt the first day, 0.45 gm. the second, 0.6 gm. the third, 0.9 gm. the fourth, 1.2 gm. the sixth, 1.8 gm. the eighth; at the same time 15 gm. in 480 cc. of water to be



given by mouth with the first intravenous dose and 1 gm. three times a day thereafter. They believe that the use of this method greatly shortens the course of arsenical dermatitis cases. Hoffman and Schreum<sup>75</sup> confirm the excellent results obtained by McBride and Dennie. Sutton<sup>77</sup> reports one case, successfully treated by this method.

Mitchell<sup>74</sup> (at the Chicago Dermatological Society meeting of January 17, 1923) reported a case treated with this drug which seemed to clear up as rapidly as those reported by McBride and Dennie. Sweitzer considered the treatment of value, especially when started early. Conrad reported one remarkably rapid result with the drug. Stokes believes the drug of value. Cole and Pusey consider it of considerable value. Hoffman has seen two cases recently where the use of this chemical seemed most encouraging, then suddenly the patient grew much worse during the course of thiosulphate.

#### TRYPARSEMID

Voegtlin, Smith, Dyer and Thompson<sup>78</sup> report their studies on the penetration of this drug into the cerebrospinal fluid. They found it more effective than any other arsenical used in experimental infection of the cranial subarachnoid space with *Trypanosoma gambiense*, *T. equiperdum* and *Spirochaeta pallida*.

Lorenz, Loevenhart, Blackwenn and Hodges<sup>79</sup> began to use this drug in neurosyphilis following some experimental work, but found ampylopia resulting in about 40 per cent. of their patients, using 5 gm. doses weekly. They later reduced to 3 gm. and used mercury salicylate conjointly and found this method superior to any other form of treatment for neurosyphilis. They emphasize the danger to the optic tract and consider degenerative changes in the retina as a contra-indication.

#### SULPHARSPHENAMIN

Irgang<sup>80</sup> found this drug—judging from its use in 20 cases—equal to neo-arsphenamin in equal dosage, and useful in small deep veins, the same as neo-arsphenamin; he found it very painful intramuscularly, only slightly so subcutaneously unless a dosage of about 0.18 gm. was exceeded, when the pain was complained of. Doble<sup>81</sup> found that treponemata disappeared in from 24 to 48 hours after an injection of this drug, thus comparing favorably with neo-arsphenamin. The clinical results and the effect on the complement-fixation test of the blood equal those of other arsenicals. He found the action on the cerebrospinal fluid not so marked as with silverarsphenamin.

#### MERCURY

Hill and Young<sup>82</sup> report the results of a number of studies in the treatment of experimental

syphilis with various chemicals. Their findings demonstrate that flumerin in repeated doses of 5 mgs. per kilogram is of much greater value than mercuric cyanid, mercuric salicylate, or red mercuric iodid, in repeated appropriate doses in rabbits infected with *spirochaeta pallida*. This result was to be expected from the mercuric cyanid, since it was possible to introduce from six to ten times as much mercury in the form of flumerin intravenously as is possible with mercuric cyanid. The fact that flumerin is so much more effective experimentally than the others which cannot be used intravenously would seem to warrant its extended trial in clinical syphilis. Snodgrass<sup>83</sup> has not been favorably impressed with his results from the use of flumerin. No other mercurial preparation would appear to produce marked changes so rapidly, but the action was not lasting. Relapses in secondary cases may occur within a short time or even while treatment by flumerin is being continued. Marked toxic effects of the nature of acute mercurialism were seen occasionally. Conversely cases of great toleration were noted. Moore and Wassermann<sup>84</sup> report their clinical results with intravenous flumerin; using in early syphilis about 8 weekly injections of arsphenamin, then 2 per cent. flumerin every other day in doses of 3 mg. per kilogram of body weight for two doses, then two doses of 4 mg., then eight of 5 mg. per kilogram, these complete courses to be continued as indicated. They feel that in early cases flumerin greatly exceeds other mercurials, while in late syphilis it has its place, but not to so marked an extent as in early cases and is not sufficiently better to justify the added inconvenience and expense to the patient.

Nichols and Walker<sup>112</sup> made some experimental tests of prophylaxis in syphilis on rabbits. They could not produce infection through an unbroken skin. Scarification of the serotum with suspensions of treponemata were successful. Calomel ointment proved efficacious up to eight hours after inoculation with syphilis. No marked difference appeared between the action of calomel in a base of lanolin and vaseline and in a base of benzoated lard and wax. Death from mercurial poisoning was produced in rabbits by a single application of a large amount of calomel ointment.

Cole, Hutton and Sollman<sup>85</sup> used an ointment which contained fifty percent. of mercury, reduced to globules of from 0.01 to 0.02 mm. diameter. Of this, 4 gm. was rubbed in daily for thirty minutes by the clock, at the end of which time the skin was carefully cleansed with benzin. The usual routine of oral hygiene was followed. It was decided that the mercurial inunctions are fully as efficient as when it is left on the skin. Pathologic conditions of the skin are important factors in the absorption of the inunctions.

#### ARSENIC AND MERCURY TOGETHER

Ebel<sup>86</sup> considers this the most efficient method of treatment. His minimum dose of neo-arsphenamin is 0.45 gm. with 0.02 gm. mercuric chloride, a total of 4 to 5 gm. of the arsenic constituting the first course. After a rest period of not over eight to twelve weeks a second course totalling 3 gm. is given. Memmsheimer<sup>87</sup> cites three cases in which arsphenamin and mercury were given mixed in the same injection: there was no effect on the lesions, while arsphenamin alone was later tried in the case and promptly cleared them.

#### CHANGES IN WEIGHT IN TREATED SYPHILIS

Sutton<sup>88</sup> reports on a series of twenty-eight patients treated with bismuth and silver arsphenamin; careful records were made to determine the effect of the treatment on body weight. When bismuth was given, the weight usually decreased; when silver arsphenamin was given it increased. There were several exceptions, usually in patients with central nervous system involvement.

#### BISMUTH

Luke and Klauder<sup>112</sup> studied microscopically the effect on rabbits of toxic doses of bismuth. They point out that, like mercurials, bismuth compounds are more injurious to the kidneys than to the liver, the reverse of which is true in cases of arsphenamin poisoning; they advise great caution in the administration of bismuth compounds to persons suffering from disturbances of the renal function.

Myers and Corbett<sup>99</sup> carefully review the literature of the subject and report their experimental work with rats. They consider the bismuth preparations inferior to the arsenicals of the arsphenamin group and superior to mercury; they believe that the synergistic action of arsenic and bismuth shows some promise. Klauder<sup>90</sup> in a considerable group of cases found bismuth of a value intermediate between arsphenamin and mercury. He especially recommends it in cases who have stopped arsphenamin prematurely and so might develop neurorecidives and in patients who are hypersensitive to arsphenamin. Bismuth inunctions worked very well in rabbits but not in man. Untoward reactions—stomatitis with salivation, foul breath, and gingival blue line—are "danger signals." Albuminuria and rarely a nephritis may occur. In rabbits a reaction occurred that comes in the Herxheimer group, giving additional evidence that bismuth is a powerful antisyphilitic remedy. McCafferty<sup>92</sup> found bismuth as effective as arsphenamin in primary and secondary syphilis, though slower; and of definite value in Wassermann-fast patients and those with an idiosyncrasy to arsenic; he found it of undoubted value in central nervous system involve-

ment. Pardo-Castello<sup>92</sup> successfully used bismuth in nine cases, and demonstrated the disappearance of treponemata from infectious lesions after the second or third injection. Pomeret and Didry<sup>93</sup> have studied the activity of bismuth on *Spirochaeta gallinarum* and arrive at the same conclusions as to the order of activity—arsenic, bismuth, mercury. Gutmann<sup>94</sup> recommends an intensive course of oily suspension of bismuth intramuscularly and arsphenamin intravenously in primary and secondary syphilis. There were some cases of slight stomatitis and albuminuria, which were not troublesome. The author used the drug intravenously in some cases but advises against its use thus. Cajal and Spier<sup>95</sup> report favorably on the use of tartrobismuthate of sodium and potassium in the treatment of congenital syphilis; they consider that it heals lesions, early as well as late, as quickly as arsphenamin, and renders the Wassermann reaction negative, and is of undoubted value in syphilis of the central nervous system. The dosage is slightly larger relatively than in adults. Neuendorff<sup>96</sup> reports four cases of severe renal irritation in 43 cases of syphilis treated with bismuth; the therapeutic effect was more rapid than with mercury. Schubert<sup>97</sup> finds the effect of bismuth on the Wassermann reaction disappointing. The most untoward results are the headache, cardiac palpitation, and other neurological manifestations, specially after the soluble preparations. Giemsa<sup>98</sup> tested the toxicity and chemotherapeutic index of various bismuth compounds in aqueous solution by intravenous and intramuscular injections in general paretics and has selected a superior preparation designated "Bi 5." Carnelli<sup>99</sup> finds that extensive research is still necessary to demonstrate the value of bismuth preparations in syphilitic infants. Gonin<sup>100</sup> finds that bismuth is inferior to neo-arsphenamin in its action on the spirochetes in syphilitic lesions. Mercuric cyanid had no action on spirochetes. Hopkins<sup>101</sup> gives bismuth the same relative value and advised that it be used with the older drugs and not alone. Guszman and Pogany<sup>102</sup> found the drug encouraging but do not recommend its use in combination with arsphenamin and mercury. Arton<sup>103</sup> reports clinical and serologic complete failure to improve in three cases of tabes and two of general paresis with bismuth. Lepinay<sup>104</sup> reports a severe articular outbreak after an intramuscular injection of 0.2 gm. quinine iodo-bismuthate. Subsequently even very small doses were followed by intense reactions. Gouin and Jegat<sup>105</sup> found the soluble salts of bismuth fully as active as neo-arsphenamin in early lesions, and observed a Herxheimer reaction in secondary cases.

Bordet<sup>106</sup> reports on twenty-three cases of syphilitic aortitis treated with bismuth; one was resistant. Bismuth must be given with much prudence. In too large doses too close together, it may aggravate the functional difficulty and

hasten its evolution. In a case of simple recent aortitis in a vigorous patient, it may be preferable to choose the arsphenamin group; their more rapid action is not to be neglected. Like mercury, they can sometimes succeed where bismuth has failed or has not given the expected results. The author has employed mixed treatments; that is, he has followed courses of arsphenamin with courses of bismuth, and between series of bismuth treatments tried mercury or the iodids.

Prater<sup>107</sup> reports on an overdose of bismogenol, showing the relative harmlessness of this bismuth preparation. The normal dose is 1 cc.; the patient received 10 cc. twice in three days, thus receiving a dose of twenty times as large as the normal, within the short period of three days. Transient stomatitis and fever were the only untoward effects. No skin or intestinal symptoms appeared. The Wassermann reaction remained positive. No local inflammation or necrosis resulted, nor was any considerable injury to the kidneys found.

#### BISMUTH REACTIONS

Nicolas, Gaté, and Lebeuf<sup>108</sup> gave bismuth ten days after an arsphenamin eruption had subsided; there appeared an almost generalized eruption of red and slightly pruritic acuminate follicular papules, resembling lichen scrofulosorum. Previous bismuth eruptions have been described as desquamative erythrodermias, purpuric outbreaks, eczematiform and urticarial rashes. Galliot<sup>109</sup> reports two cases of urticaria lasting several days after injections of bismuth; also one case in an infant of a scarlatiniform rash on the lower extremity corresponding to the buttock into which the bismuth had been injected.

#### ZINC IN THE TREATMENT OF SYPHILIS

Greco<sup>110</sup> found that zinc proved efficacious in all stages of the disease, causing to disappear certain subjective symptoms such as pains, vertigo, insomnia, lack of appetite and prostration. In manifestations of primary syphilis one could note the disinfiltration of the chancre, the healing of phimos, and the reduction of the accompanying adenopathy. In the secondary manifestations, zinc causes the disappearance of the roseoles and the papules, but it has no effect upon the mucous patches, the appearance of which even seems to be favored by zinc. In tertiary syphilis it causes disinfiltration, and cures the cutaneous gummas and periostitis. Zinc has a tonic, upbuilding influence on the infected organism. The author indicates as maximum doses for intravenous injections: 23 mg. for zinc iodide; 20 mg. for zinc valerate; 30 mg. for zinc salicylate, and 150 mg. for zinc oxide (the last intramuscularly). The toxic effect of the curative doses of zinc does not seem to be considerable; the author observed chills in one patient,

a slight gingivitis and a congestion of the palate in two others. The author concludes from his experiments that the zinc compounds have a certain effect upon syphilis, but their efficiency seems to be less than that of the more active drugs known. They may be employed as an auxiliary remedy in patients with tertiary syphilis (gummatous, interstitial, nervous). It would be desirable to test these compounds on a larger scale.

#### THE PROGNOSIS OF SYPHILIS

Fordyce<sup>111</sup>. The syphilitic patient's future depends almost entirely on the knowledge of the physician first consulted, as dark-field examination and intensive treatment must be used to establish an early diagnosis and begin abortive treatment. He believes that patients with primary, Wassermann-negative cases can generally be assured a cure by intensive treatment, this consisting of two courses of eight arsphenamin and fifteen mercury injections each. After the Wassermann test has become positive, a cure is possible with thorough treatment which should be long continued even though the Wassermann test becomes negative early. These cases may require intraspinal treatment and long observation before a cure can be pronounced. Symptomatic cure in tertiary and latent cases can be obtained by several courses of arsphenamin with mercury and the iodids. Neurosyphilis, especially in the degeneration stages of tabes and paresis, has an unfavorable prognosis, although adequate treatment, including intraspinal, in the early stages will generally cure patients with early cases, while improper treatment in these cases may result in tabes or paresis. The prognosis of congenital syphilis is less favorable than in the acquired form, this being especially true in neurosyphilis. With regard to marriage, a negative Wassermann and spinal fluid test for one or two years after adequate treatment had been given, should usually be required before consent to marry is given, although in exceptional cases a positive Wassermann test may not prevent such consent. The criteria of cure depend on adequate treatment, negative Wassermann tests for at least one year after cessation of all treatment, a negative spinal fluid, and negative findings in the cardiovascular system.

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## Organization of a Medical Intelligence Bureau for the Hot Springs National Park of Arkansas

BY L. M. MAUS, INTELLIGENCE OFFICER, HOT SPRINGS, ARK.

UNDER the auspices of the Garland County Medical Society of Hot Springs, a Medical Intelligence Bureau has been organized for the purpose of placing before the medical profession of America, a clearer and more exact knowledge of the therapeutic values of the waters of the Hot Springs National Park of Arkansas, in the treatment of diseases and conditions resulting from acquired or constitutional toxæmias, faulty metabolism and defective elimination. Colonel L. M. Maus, retired, Medical Corps, United States Army, has been appointed Intelligence Officer and placed in charge of the bureau.

An advisory committee, consisting of three members of the local medical society, also members of the American Medical Association, has been appointed to coöperate with the intelligence officer in the management of the bureau. Clinical and other professional information relative to the uses of the waters of the springs in the treatment of diseases will be conveyed to the medical profession of the country through addresses before medical societies and conventions, contributions to medical journals, and the distribution of appropriate medical literature on the subject. Members of the profession are cordially invited to correspond with the bureau relative to cases, which have not responded to

treatment at home, and to the advisability of sending them to Hot Springs for a course of treatment.

Although Hot Springs is owned and controlled by the United States Government and has been used, with increasing popularity, for more than a hundred years, it is believed that there is a general lack of knowledge throughout the medical fraternity of the country, relative to the healing and beneficial powers of the waters.

Recognizing the beneficial results of Hot Springs in the treatment of chronic rheumatism, arthritis and the various forms of chronic neuritis, more than forty years ago, the Government constructed the Army & Navy General Hospital here, where thousands of officers, enlisted men and veterans of the several wars have been successfully treated. Several years ago the Interior Department, at a cost of several hundred thousand dollars, constructed a public bath house for the poor of the country, where large numbers, during all seasons of the year, are treated gratuitously regardless of race, color or sex, by medical officers detailed from the Public Health Service.

In a circular letter published under an Executive Order, as early as August, 1892, the Surgeon General of the Army informed medical



officers that the waters of Hot Springs, Arkansas, had established a reputation in the treatment of certain diseases, and recommended that patients suffering from the following diseases and conditions be sent there for treatment: the various forms of gout and rheumatism after the acute inflammatory stage, neuralgia, especially when depending upon gout, rheumatism, metallic or malarial poisoning, paralysis, not of central origin, the earlier stages of loco-motor ataxia, functional diseases of the liver, chronic skin diseases, especially the squamous varieties, chronic conditions due to malarial poisoning, infective arthritis, arterio-sclerosis, chronic nephritis and other cardio-renal diseases, selected diseases of metabolism (gout, diabetes, obesity, etc.), chronic gastro-intestinal diseases, which have not responded to continued hospitalization at other places (gastro-neurosis, post-dysenteric colitis, chronic intestinal stasis, etc.). Clinical experience among the practitioners of Hot Springs has proven that these waters taken internally and employed in the form of baths have been very effective in the reduction of high blood pressure.

Every facility has been provided at Hot Springs for the care and treatment of the sick in the way of bath houses, hospitals, sanatoria, hotels and boarding houses. Among the twenty or more bath houses are a number costing from one to three hundred thousand dollars each, and contain the most modern equipment for the different phases of hydro-therapeutic treatment. The climatic conditions are excellent and favorable at all seasons of the year for taking the baths, and are especially so during the warm weather at which season skin elimination is more active.

Hot Springs is provided with an efficient medical staff, which measures up favorably with the profession throughout the country. They are not only required to pass a local federal medical board, but the state board of medical examiners, before allowed to practice and prescribe the baths. The physicians, as well as the bath houses, are under the control of United States authority through the Park Superintendent, who is an officer of the Public Health Service. Sanitary inspections of the bath houses are made daily and they are kept in excellent condition.

The Hot Springs of Arkansas were set aside by Congress in 1832 as a "National Sanitorium for all time and dedicated to the people of the United States, to be free forever from sale or alienation." Frequent physiological and chemical examinations have been made of these waters by government experts, and at the present time the Secretary of the Interior has asked another appropriation for that purpose. Professor Boltwood in 1904 declared that the waters of Hot Springs, Arkansas, were strongly radio-active and in 1913 Professors Hunt and Franklin of the National Research Council reported them, with few exceptions, to be as strongly radio-

active as any European Springs. When the true therapeutic values of these waters become known to the Profession of America, and the many erroneous and prejudicial opinions of a generation ago swept away, the Hot Springs National Park of Arkansas will become celebrated as the world's greatest health resort, and prove inestimable in the cure and relief of suffering humanity.

## BOOK REVIEWS

*Principles and Practice of Perimetry.* By LUTHER C. PETER. Lea and Febiger, Philadelphia, 1923.

The second edition of this very useful book shows an increase of nearly fifty pages with new and helpful features. In the first place, part one is now devoted to the anatomy and physiology of the visual pathway to give the student an understanding of the normal field and of the changes which take place in disease.

In Part Two only a few changes have been made to bring the subject matter up to date. Much new light has been thrown on size and relation of the color field by the researches of Ferree and Rand.

Part Three on the methods of perimetry has been largely expanded and rewritten. While the writer accepts the many advantages of a reduction in the size of test objects in detecting five changes in the field he believes that this method should not be employed to the exclusion of colored test objects which are indispensable in detecting slight changes in the loss of sensitivity. Day light should be replaced by artificial illumination if consistent results are to be expected. (Day light illumination should be eliminated when its intensity falls below a certain level, would be a better way to put it.—*Reviewer*.) How perimetry is carried out is best expressed by a fraction the numerator of which is the angle subtended by the test object while the denominator is the radius of the apparatus used. The great superiority of the Ferree Rand perimetry is emphasized. Some form of tangent screen is indispensable if fine changes within the 30° circle are to be detected. The value of the stereo campimeter, if stereoscopic vision exists, is emphasized.

Parts Four and Five on the general and special pathology of the field have been expanded to bring the subject up to date.

The section on Glaucoma, in which disease considerable advance has been made since the first edition appeared, has been enlarged and the great importance of regular field estimation is rightly emphasized. In spite of the field shown on Page 172 the reviewer cannot help feeling some doubt whether a real concentric contraction ever occurs in chronic glaucoma. Additional material is incorporated throughout most of



the pathological sections thus the central field changes due to accessory sinus disease so well described by Van der Hoeve and the advance in knowledge of localization contributed by Holmes, Lister, Morax and others in their war studies. The book should be in the library of every ophthalmologist and will be found to be useful work of reference for all those interested in perimetry.

*The Insulin Treatment of Diabetes Mellitus.*—P. J. CAMMIDGE, 167 pages. Wm. Wood & Co., New York.

This book is of interest chiefly as an exposition of the author's views regarding the nature of diabetes and the differentiation of true diabetes and "glycosurias" due to other causes. A history of the researches culminating in the work of Banting and Best is followed by a discussion of the chemical and physiological nature of insulin. He holds that normally the internal secretion of the pancreas controls carbohydrate metabolism by a brake-like action which it exerts over the glycogenolytic ferment of the liver and other glycogen stores. When this secretion is deficient, abnormal ferment activity causes hyperglycemia and glycosuria. Insulin prevents this abnormal glycogenolysis.

According to Maceoed this view of the nature of insulin is contradicted by the experimental evidence so far obtained.

Cammidge uses the Folin-Wu method of blood sugar determination. After hydrolysis of the filtrate, he obtains a total carbohydrate, glucose value, and a difference value. From the character of the curve of the blood sugars and difference values following a test diet of carbohydrate 35 grams, protein 15 grams and fat 40 grams, he makes such diagnoses as alimentary glycosuria, "portal effect," instability of the nervous system, or hyperfunction of the ductless glands other than the pancreas, defective hydrochloric acid excretion in the stomach, renal permeability, and internal pancreatic insufficiency. He seems far more dogmatic in his interpretation of blood sugar curves than many students of diabetes in the country have been.

The emphasis which he places on intestinal catarrh, cholangitis, etc., is worthy of attention but he apparently has left out of consideration the results of the more recent methods of duodenal and biliary drainage.

The discussion of the clinical treatment of diabetes with insulin gives little that is new. He emphasizes the importance of educating both patients and physicians in methods of dietary treatment. He regards this as all the more important since insulin is not necessary in the treatment of many diabetic patients. A modification of the Folin-Wu method for blood sugar determination is given. Altogether the book will be found worthy of reading as the expression of the author's attitude toward diabetes and pan-

creatic diseases even though some of his conclusions are not in accord with experimental evidence accepted by other authorities.

*A Woman's Quest.* The Life of Marie E. Zakrzewska, M. D. Edited by AGNES C. VIETOR, M. D., F. A. C. S., formerly Instructor in Physical Diagnosis and Surgery, Woman's Medical College of the New York Infirmary, Later Assistant Surgeon, New England Hospital for Women and Children, Boston. D. Appleton and Company, New York, London, 1924. P. 513.

This interesting story of the life of a great woman medical pioneer gives a complete account of the striving for an ideal, through almost insurmountable obstacles, and its final attainment, during the life of the idealist.

Few of the present day realize the intense prejudice in America against women in medicine, some fifty or more years ago, and what obstacles and discouragements were thrown in the path of the courageous women who wished the right to practice medicine.

The story of Dr. Zakrzewska, so ably edited by Dr. Vietor, gives a vivid idea of the struggles through which these pioneer women had to pass before obtaining their goal.

The early part of the book is largely autobiographical and tells us of the early life in Europe of this extraordinary woman, and of her connection with the Charité Hospital in Berlin, "Accoucheuse en Chef" as she was called.

Perhaps the most interesting chapters are those in which she sketches the events concerning her early medical life in America, and particularly her New York experiences.

The courage necessary to surmount the obstacles everywhere blocking her path was almost superhuman, and reminds us strongly of the struggles of some of the great French surgeons, pioneers in the 17th and 18th centuries. Any less gifted and aggressive personality would have been discouraged to the point of giving up the plans for a hospital for women, managed and visited by women physicians, many times over.

The latter part of the book is largely an account of "Dr. Zaks," as she was affectionately called, foundation, and connection with, the New England Hospital for Women.

Many interesting details of the storms and trials of this foundation are given, and the dark hours of discouragement, before the institution was on a firm basis. Interesting side lights as to the various attitudes of the medical leaders of the times in Boston, towards women physicians are given. The book deserves all the praise that can be given it, and is a monument to this woman pioneer, who did so much for medical women. She did and dared the seemingly impossible, the fruits of her efforts being successful beyond her hopes, and their realization coming while she was yet alive.

# Case Records of the Massachusetts General Hospital

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN  
WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY

RICHARD C. CABOT, M.D., AND HUGH CABOT, M.D.

F. M. PAINTER, A.B., ASSISTANT EDITOR

## CASE 10311

*First admission.* A German schoolboy of eighteen entered November 30 for relief of rigid flat feet.

P. E. Negative except for this condition and the *heart*, which was enlarged, with a soft diastolic murmur at the apex. Apex beat very forcible, displaced downward and outward to the sixth space in the mammillary line. Continuous murmur at aortic area. Visible pulsation in veins of neck.

Tenotomy of the peroneal tendons was done. December 12 the patient was discharged relieved.

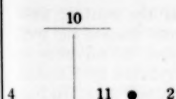
*Second entry.* June 29, two years later, he re-entered.

F. H. One brother and one sister were dead of unknown causes.

P. H. He had had measles and typhoid fever. At seven and fourteen he had rheumatic fever with complete recovery. At fifteen he had another attack, and since this time had had trouble with his feet. The ankle joint had been enlarged and stiff. He was treated by Zander and massage in January and February following the first discharge. In August the feet were symptomless but not perfect. For a year and a half he had had treatment for his ankles.

P. I. For six months he had had a few hemorrhagic spots on his lower legs, causing no discomfort. For the same period he had had poor appetite and sleep and loss of weight. Food had caused epigastric pain. His ankles had been more or less painful. The day before admission the hemorrhagic spots on the legs increased enormously and he became dyspneic.

P. E. A fairly well developed, poorly nourished boy with sallow skin. One slight hemorrhagic spot on the left eyelid. Mucous membranes pale. Apex impulse of the *heart* in the fifth space 11 cm. from midsternum, 2 cm. outside the nipple line. Percussion measurements as shown in the diagram. First sound at apex replaced by a loud blowing murmur, partly



presystolic but mainly systolic. Following the second sound was heard a faint diastolic. Both murmurs transmitted to axilla. Toward the base the diastolic increased in strength, becoming loud and musical. Best heard over the aortic area. P<sub>2</sub> slightly accentuated. Corrigan pulse, with an evanescent thrill. Artery wall felt. Pistol shot and slight capillary pulse. *Lungs* and *abdomen* normal. *Genitals* normal except for a few hemorrhagic macules on the prepuce. *Extremities.* Slight edema of the ankles. Marked pronation of both ankles. Rigid flat foot. Distributed over legs, buttocks, forearms, hands, left upper eyelid and prepuce were numerous small raspberry colored hemorrhagic macules and papules from 1 to 3 mm. in diameter. The skin was dry, hot and tender, and felt slightly granular. Below the knees these were much more numerous, becoming confluent, especially about the ankles. Soles and dorsa of both feet were thickly covered with such hemorrhagic areas.

T. 98.2°-101.7°. P. 80-119, with a terminal rise to 141. R. 22-32, with a terminal rise to 49. *Urine.* Normal amount, sp. gr. 1.007-1.008, slightly smoky at two of three examinations, bloody at the third, a slight trace to a trace of albumin at all, numerous leucocytes at the first two, sediment apparently pure blood at the last. *Blood.* Hgb. 35%-40%, leucocytes 31,000, polynuclears 93%-82%, reds 2,500,000-1,500,000, achromia, macrocytosis and microcytosis at both of two examinations, some poikilocytosis at the second, platelets decreased. *Blood cultures* June 30. Typical streptococcus and a slightly larger diplo-streptococcus growing in short chains and decolorized by Gram's method. July 2. The same organisms. "The Gram-negative organism corresponds to Poynton and Paine's description of the so-called streptococcus rheumaticus." *Stool.* Guaiac positive.

July 3 the patient complained of weakness in the left arm. There was slight paresis. The left eye was dilated. The following evening he complained of pain in the kidney region. The spots were almost gone. He grew weaker daily. July 8 the heart again showed a slightly musical murmur. The hematuria reported on the seventh was increased. The patient complained of tender glands in the right groin. The muscles of the left side of the face were slightly paralyzed. There was a slight hemorrhagic area in the left conjunctiva. That noon an autogenous vaccine was given. At midnight the patient suddenly began to choke and gasp. When seen by the house officer he was barely conscious. The lungs were full of moist coarse râles in the back. The breathing was harsh on the left, diminished on the right. The next

morning the patient was found unconscious and markedly cyanotic. A few minutes later he died.

#### DISCUSSION

BY DR. RICHARD C. CABOT

#### NOTES ON THE HISTORY

People do not ordinarily die of rigid flat-foot, and as this is a necropsied case I look ahead and see that the second time he did not come in for that.

If the "continuous murmur at the aortic area" is correct it means a congenital lesion, but the record is probably wrong.

"Zander apparatus" means mechanical massage and passive motion done by a machine. We used to have the machines here, but have given them up now.

The combination of poor appetite and sleep with loss of weight in a boy who we may suppose has a chronic valvular lesion makes us wonder whether an acute or subacute endocarditis has not become grafted on top of that, giving us the purpuric spots and the general symptoms of a septicemia.

My guess—it is always important to call things by their right names,—not diagnosis, but guess, at this stage is acute or subacute endocarditis on top of a chronic endocarditis.

#### NOTES ON THE PHYSICAL EXAMINATION

This is a considerably enlarged heart for his age. By "aortic area" they mean the second right interspace. We should like very much to know more about the thrill. Probably it was not over the pulse. If we could find out whether it was over the heart area and if so where, it would make a difference. It is often felt in acute endocarditis, also in aortic stenosis, which is one of the things we are thinking of here.

We have all the peripheral arterial signs of an aortic regurgitation, which we certainly suspect.

Was this a sharply swinging temperature or pretty steady?

MISS PAINTER: Sharply swinging.

DR. CABOT: It does strike normal, but not for the whole of any day.

The hemoglobin is just what I should expect. The reds were going down in the few days he was here.

If we are thinking of the pathology of this case we can see the disease develop from point to point.

Vaccine never does any good in these cases.

#### DIFFERENTIAL DIAGNOSIS

I see no reason to doubt the guess, which now has become something better than a guess, as to the diagnosis in this case. If we are wrong I shall be greatly surprised. Often we feel pretty sure that we shall be wrong. But we have a

mass of data here. I do not see how we can be wrong. I believe that this boy, in his first or second attack of rheumatism at seven or fourteen, got an endocarditis. It became a chronic endocarditis, making the valves stiff and rigid. Then when he was eighteen, six months before he came here—(it is a long infection)—he got another acute endocarditis on top of his chronic, this time vegetative, malignant, throwing off into the blood these streptococci which are here rather imperfectly described. Then the circulation began throwing emboli into his kidneys, into his skin, into his brain, and presumably into many other places.

A PHYSICIAN: Do you think there was one to the lung too? He is suffering from cyanosis.

DR. CABOT: I think it is possible. If he had spit blood we should have been sure of it. As it is I am uncertain. But probably in the spleen, probably in the liver, where we do not hear much of them, there were also infarcts, emboli. That is all so far as I know.

This is the condition called by Libmann "subacute bacterial endocarditis." I do not like the term; but he has described it carefully and fully, has brought out the long course, the slight complaints, the progressive anemia. These people are often thought to have pernicious anemia and emboli.

Which valves are involved? I think both the mitral and aortic probably. What is my ground for saying that? We have good reasons for suspecting the aorta, in the peripheral vascular phenomena, Corrigan pulse, capillary pulse, etc., as well as in the murmurs and the size of the heart. We have less evidence of mitral disease, but on the other hand mitral disease is more than twice as common in people of this age; hence we have enough here to make me think of both aortic and mitral disease. It would not surprise me if the tricuspid also was affected. We have no evidence of it.

A PHYSICIAN: Why do you rule out lues?

DR. CABOT: The diagnosis of lues must rest, as far as I know, on lesions or history of that disease.

A PHYSICIAN: Will congenital cases of lues show an aortic lesion?

DR. CABOT: I cannot answer that. I have not seen that myself. Those that I have seen have not been congenital.

I had not quite finished answering the previous question. I never make a diagnosis of syphilis unless there is a history or lesion of syphilis, or the organism is seen in a dark field, or there is a positive Wassermann. Congenital syphilis ought to show in the eyes, ears, teeth, shins, and it does not show in any one of those places. The fact of hemorrhagic spots is nothing. We get them in all sorts of diseases other than syphilis.

A PHYSICIAN: You mentioned a congenital heart lesion in the earlier admission.

DR. CABOT: Yes, but nothing was said about

that later. I take it the last record was of my own examination, and I am going on that. I do not think there will be any congenital lesion.

There was blood in the urine, and so much blood that a kidney infarct is the first thing to think of. Another is an acute or subacute nephritis, which is very often due to this organism. Between those two conditions it is impossible to tell. Either of them would give this picture. My guess is that there is infarct and maybe nephritis besides.

A PHYSICIAN: How about chronic nephritis?  
DR. CABOT: There may be, though that would not show itself by such a urine as this or in any other way that I know during the course of an acute disease. We have not much in the way of kidney symptoms. We have not had a high blood pressure so far as we know. We have had nothing to suggest uremia, no edema, such as we often get with a chronic nephritis. Acute nephritis often shows no change except in the urine. I do not know how to distinguish when we have so much blood, because blood is the distinguishing thing about nephritis.

A PHYSICIAN: Could this blood in the stools be from passive congestion?

DR. CABOT: I have never seen blood in the stool from passive congestion. He probably had some hemorrhoids, although they are not recorded.

#### CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Verrucose infectious endocarditis of the aortic and mitral valves with stenosis and regurgitation.

Bacteremia and embolism of kidneys, spleen and brain.

Infarct of lung.

Symptomatic purpura.

#### DR. RICHARD C. CABOT'S DIAGNOSIS

Chronic and acute endocarditis of the aortic and mitral valves.

Hypertrophy and dilatation of the heart.

Infarcts of kidney, brain, spleen, liver, etc.

Acute or subacute nephritis?

Streptococcus septicæmia.

#### ANATOMICAL DIAGNOSIS

##### 1. Primary fatal lesion

Fibrous, ulcerative, and polypous endocarditis of the aortic and mitral valves.

Partial occlusion of the orifices of the coronary arteries.

##### 2. Secondary or terminal lesions

Hypertrophy and dilatation of the heart.

Septicæmia, atypical streptococcus.

Infarcts of the spleen and kidneys.

Chronic glomerulonephritis.

Chronic passive congestion, general.

Bronchopneumonia, slight.

Purpura.

##### 3. Historical landmarks

Obsolete tuberculosis of the mesenteric lymphatic glands.

Chronic pleuritis, slight.

DR. RICHARDSON: The skin and mucous membranes were pale. Scattered over the hands, arms, trunk, and legs were the purplish areas and spots mentioned.

The subcutaneous tissues were wet,—anasarca. In the peritoneal cavity there was a small amount of clear thin straw-colored fluid, beginning ascites. There were a few old adhesions binding the spleen to the diaphragm. The mesenteric glands showed in several instances obsolete tuberculosis. The diaphragm on each side was at the fifth rib.

In the right pleural cavity there was a small amount of thin pale fluid with fibrinous flocculi. The left pleura showed purplish areas and spots scattered over it. The bronchial lymph glands were enlarged, soft and juicy. There was some reddening of the mucosa of the trachea and bronchi. The lung tissue generally showed typical chronic passive congestion. There were a few small areas of bronchopneumonia.

The heart weighed 315 grams, slightly enlarged. The myocardium was pale and of fair consistence. The cavity of the left ventricle was dilated, the other cavities somewhat so. The mitral valve measured eleven cm., the aortic 6.75 cm. The mitral valve showed a thick layer of grayish yellow soft vegetations extending down along the chordae tendineae and up along the auricle wall,—the usual picture in these rheumatic hearts. Underneath this vegetative endocarditis there was a little fibrous endocarditis. The aortic cusps showed a moderate amount of fibrous thickening and a similar coating of vegetations. These vegetations in places on the posterior walls of the sinuses of Valsalva presented as small masses, and there was some obstruction to the coronary arteries. In the aorta, where it joins the sinuses of Valsalva, there was a small depression with granular vegetation-like material in it. It was not luetic.

The liver showed chronic passive congestion. The ducts of Wirsung and Santorini were both present and free. The spleen was enlarged and showed numerous smaller and larger infarcts. The weight of the kidneys is given as 530 grams. Those are very large kidneys and the weight would indicate that if there was any glomerulonephritis in them we should expect it to be acute or subacute in type. Microscopically there was considerable change, chronic nephritis. The kidneys also showed infarcts. The bladder mucosa showed scattered small purplish spots and areas as described on the skin.

The gastro-intestinal tract showed some reddening of the mucosa and in places purplish spots and areas. These of course may have been the source of the blood in the intestine.



The lymphatic glands generally were enlarged, soft and juicy.

Culture from the heart blood showed a good growth of an atypical streptococcus.

This is a typical case of chronic and acute endocarditis of the aortic and mitral valves, ulcerative in type and partially occluding the orifices of the coronary arteries.

### CASE 10312

An unmarried Newfoundland waitress of twenty-seven entered January 30 with a diagnosis by her physician of anemia.

F. H. Good.

P. II. She had had diphtheria, measles, chickenpox, and pertussis.

P. I. Four years before admission she had bilious headaches every two or three weeks for two years. The headache began in the morning; then she had vomiting and had to be in bed for three or four days. Four years ago, after the onset of these headaches, she had a "septic sore throat" confining her to bed for four days. The pain was mostly on the right side. She could not open her mouth. Two years ago her jaw became swollen. She had a tooth extracted under ether, and was unconscious for more than forty-eight hours afterwards. When she regained consciousness her eyes were so swollen that she could not see, she had muscular twitchings, and vomited a great deal. (See hospital report below.) She was ill for four months after this. A year ago she began to notice dyspnea. Six months ago she began to have nycturia and to become tired more and more easily, until she was obliged to give up her work two weeks ago on account of utter exhaustion. She also had lost appetite and had nausea and vomiting, at first vomiting only occasionally about fifteen minutes after meals with great relief, but during the last three months as often as every other day, and during the past four weeks as often as every day, the last time two days ago, although she had been nauseated every day since. The vomitus usually contained food or was greenish, never dark or bloody. It occurred as often after the noon meal as in the morning. Beginning six months ago she also had dyspnea on the slightest exertion, and almost every night had been able to sleep only in naps because of a smothering feeling and shortness of breath, relieved only by sitting up. With this was palpitation. She had also had frontal headache for six months, continuous for two weeks, and nycturia at first twice a night, four weeks ago three or four times a night, for the last few nights only once, the reduction being due probably to limited fluid intake. She did not have frequency during the day, and thought she voided much larger

quantities at night. For six months she had had cramps in the legs and feet, much more severe for the past two weeks. For three months she had had increased thirst, so bad four weeks ago that her mouth seemed to be always dry and she had to drink all the time. Six weeks ago her eyelids were puffy in the morning, and at the end of the day's work her feet and hands were swollen. Her legs just above the knees were swollen, tender, and red at times. For five weeks she had had pain on pressure just below the ribs on the right. Four weeks ago she became too exhausted to work and began to have blurring of vision, which had persisted. Her eyeballs had felt sore. Three weeks ago for four days she had epigastric pain and some cramps in the sides. For two weeks she had had pain over the heart. Two weeks ago she changed doctors and was given a semi-solid diet and limited fluids. Her appetite improved. She had however "inward convulsions,"—periods of unconsciousness lasting half to three-quarters of an hour several times a day for five days ending a week ago. The day before admission she fainted for fifteen minutes after a feeling of nausea followed by seeing everything turn black. During the past year she had lost thirty pounds.

Another hospital reports that the patient entered January 20, two years earlier, following the extraction of the tooth mentioned above. The left lower jaw was swollen and very tender, and showed a deep hole. Breath foul. Heart and lungs normal. Hgb. 60%, reds 4,200,000. Wassermann negative. Urine negative. Smears from vagina and Skene's ducts negative for gonococci. Diagnosis, hysteria, secondary anemia, swelling of jaw following tooth extraction.

P. E. Thin. Slightly pale. Tonsils large, inflamed, with patches of exudate in crypts. Chains of bean- to pea-sized cervical glands on both sides. Lungs negative. Heart. Diffuse heaving impulse, the apex of which appeared to be in the fifth space 12 cm. from midsternum. Action regular, forceful. A<sub>2</sub> accentuated. No murmurs. Artery walls sclerosed, tortuous. Right brachial beaded. B. P. 230/170 to 180/135. Electrocardiogram. Normal rhythm. Rate 105. Inverted T<sub>2</sub>. P<sub>2</sub> + 3 mm. Left axis deviation. Index + 25. Ventricular premature beat on another plate. Abdomen. Liver edge felt slightly below the level of the umbilicus, very soft, sharp, and slightly tender. Tip of spleen questionably felt just below the left costal margin, rather sharp and firm. Some question whether it was kidney. It seemed quite superficial. The chest, however, was very shallow. It was not possible to get under the edge. Genitals, extremities and reflexes normal. Pupils normal. Slight left external strabismus. Fundi. Old chorioretinitis at periphery. Endovasculitis. Retinal



hemorrhages and retinal edema around both discs. "This condition is more suggestive of an old syphilis than anything else."

T. 97°-100.4°. P. 80-131. R. 19-40, with a terminal rise to 48. Urine. 3 12-45, sp. gr. 1.010-1.032, a slight trace to a large trace of albumin at all of fifteen examinations, cloudy or muddy at five, alkaline at four, red blood corpuscles at three, leucocytes at 14. Renal function January 31 40%, February 2 33%, February 4 45%, February 17 0, February 21 25%. Non-protein nitrogen January 30 38.9 mgm., February 1 38.9 mgm., February 7 36.3 mgm., February 29 38 mgm., March 4 34.2 mgm., March 17 56.1 mgm. Creatinin February 25 1.44 mgm. Uric acid 3.84 mgm. Blood. Hgb. 100%. leucocytes 14,000-7,600-17,000, polynuclears 83%, reds 5,370,000-5,580,000, slight variation and achromia. Two Wassermanns negative. Throat cultures. I. No Klebs-Loeffler bacilli. II. Streptococci.

## SCHLAYER TEST FEBRUARY 2

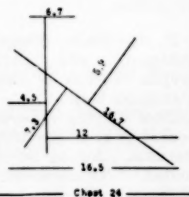
Time	Amount	Sp. gr.	Albumin	Total excretion NaCl
8-10 a. m.	170 c.c.	1.008	Large trace	
10-12	30	1.022	" "	
12-2 p. m.	80	1.010	" "	
2-4	70	1.018	" "	
4-6	160	1.018	" "	
6-8 p. m.	250	1.010	" "	
Total day	890 c.c.	1.014	" "	1.46 gms.
Total night	550	1.014	" "	3.85 gms.
Total 24 hrs.	1440			5.31 gms.

X-rays. Marked enlargement of cardiac shadow, especially the left side (see diagram)

... No definite evidence of sinus pathology. ... Marked absorption at one tooth root, but no evidence of apical abscess. ... No abnormal kidney shadows.

Orders. January 30. Salt free low protein diet. Fluids *ad lib.* Up

and about *ad lib.* Individual precautions. Dobell's gargle, hot, every three hours. Aspirin gr. x 4 i.d. February 1. Dobell's gargle, hot, every three hours. Aspirin gr. x 4 i.d. February 2. Pyramidon gr. v. February 4. Morphia gr. 1/6 by mouth. February 5. Digitalis gr. iss t.i.d. February 6. Nux vomica and gentian compound\* t.i.d. February 8. Digitalis gr. iss daily. Pyramidon gr. v. February 9. Morphia gr. 1/6. Veronal gr. x. February 10. Erythrol tetranitrate gr. 1/6 4 i.d. February 11. Pyramidon gr. v. Morphia gr. 1/6 by mouth, repeat once if not



relieved. February 12. Nitroglycerin gr. 1/100 dissolved in five teaspoonfuls of water; 5 i every hour for five doses. Digitalis gr. iss daily. February 14. Morphia gr. 1/8 by mouth. February 15. Morphia gr. 1/6 s.c. Soda bicarbonate 3 i. Caffein gr. x by mouth if awake every four hours if respiration continues Cheyne-Stokes. Chloral hydrate gr. x by rectum if not asleep in an hour. February 16. Caffein gr. x s.c. Paraldehyde 5 ii by rectum. Veronal gr. xv by rectum. Caffein gr. x p.r.n. every three hours for Cheyne-Stokes. February 17. Caffein gr. x intramuscularly. February 19. Magnesium sulphate 5 i. February 20. Force fluids. February 22 and 23. Caffein gr. x intramuscularly. February 24. Chloral hydrate gr. x. February 25. Luminal gr. iss. February 26. Caffein gr. x intramuscularly every three hours p.r.n. for dyspnea. Paraldehyde 5 ii by rectum. Veronal gr. x. Pantopon gr. 1/6 s.c. every four hours p.r.n. February 28. Pantopon gr. 1/6 s.c. Rectal tap water 5% glucose 5 vi every six hours. February 29. Luminal gr. iss. Caffein sodium salicylate gr. x intramuscularly. Pantopon gr. 1/6 s.c. March 1. Pantopon gr. 1/6 s.c. March 2. Caffein gr. x s.c. Pantopon gr. 1/6 s.c. every four hours p.r.n. if respiration above 14. March 3 and daily thereafter pantopon gr. 1/6 s.c. one or two doses a day, March 18 every four hours. March 5. Caffein sodium salicylate gr. x. Soft food, low in salt but not in protein,—milk, cereals, eggs, custards, etc. March 7. Caffein gr. x. March 8. Caffein gr. x intramuscularly. March 10 and 15. Caffein gr. x.

The patient was drowsy most of the time, had frequent headaches and vomiting. Nothing was found on neurological examination. The evening of February 15 she had severe pain in the region of the heart, with dyspnea and faintness. Morphia relieved the pain but caused vomiting. She appeared to be on the verge of collapse. Later she had Cheyne-Stokes breathing, relieved by caffeine. Her pulse was poor during the attack. February 18 and 19 she was much more drowsy, but had no cardiac attacks. Pelvic examination was not very satisfactory but showed resistance in the right vault. February 28 she had been having much cardiac pain and vomited a great deal with or without sedatives, morphia apparently causing more marked vomiting. She seemed to fail steadily. By the second week in March she was very weak. Another pelvic examination showed the cervix red and somewhat nodular—apparently small cysts. The fundus was not palpable. March 18 she complained of much pain in the chest with hyperesthesia so marked in front that she would not allow even the weight of a nightdress. That day she vomited about six ounces of clear blood. Pantopon did not relieve her much. March 19 she died.

\*Tincture of nux vomica 3 ii, tincture of gentian compound 3 i water to make 3 iv. One teaspoonful in water t. i. d. each meal

DISCUSSION

BY DR. WILLIAM H. SMITH

NOTES ON THE PHYSICAL EXAMINATION

I remember this patient well, but do not remember what the necropsy showed.

"P<sub>2</sub> + 3 mm." means the auricular complex in Lead II is three mm. high, which is rather higher than the normal.

The urine of course is interesting here. There is certainly not a fixation of gravity, and as a matter of fact we were never able to satisfy ourselves that there was a constant diminution in any function. She seemed to eliminate fairly well.

The non-protein nitrogen is only slightly high, the creatinin not very high. In other words, as far as the chemistry of the blood stream was concerned it certainly did not suggest very marked faulty elimination of the kidney.

The Schlayer test taught us practically nothing. The amount during the night, 550 c.c., was somewhat diminished, but not the total amount. We never found any fixation of gravity, any marked diminution of function, any marked holding of chemistry in the blood stream.

The striking thing about the patient in the ward was the forcible heart action. We could almost see it shake her chest. She was so thin that the preponderance of hypertrophy was the special feature in the case, associated with the very marked hyperpressure.

I do not think there was a day for three weeks that I did not see her vomiting. It was continuous. Because of the persistent nausea and the possibility of there being some uterine condition we wanted to be perfectly sure. That possibility was considered with the utmost care and was absolutely ruled out.

DIFFERENTIAL DIAGNOSIS

I do not feel that anything we did for this patient made the slightest difference. I do not feel that we had any therapeutic effect on her pressure, on her nausea, on the discomfort that she had. She was in this drowsy, nauseated, Cheyne-Stokes breathing, semiconscious state for days and days. All I said was that she certainly had cardiac hypertrophy, she certainly had hyperpressure. There did not seem to be adequate evidence to point to an extensive chronic nephritis. The best diagnosis would be an essential hyperpressure associated with cardiac hypertrophy, with associated changes, presumably arteriosclerotic, in the vessels, widespread associated with certain changes in the kidney, a certain amount of nephritis. Further than that I could not go, and I do not remember what the post-mortem showed.

DR. PAUL D. WHITE: I have nothing to add except that I thought during life there was more nephritis than Dr. Smith did. It is so rare to see an essential hypertension at this

age that I could not make such a diagnosis. The heart was one showing the effect of hypertension,—a hypertrophied heart.

DR. EDWARD L. YOUNG: Wouldn't you be discrediting your chemical tests if you said there was any nephritis?

DR. WILLIAM H. SMITH: No. I do not think they read absolutely true. I think there are cases where the hold-back is not extensive. If this is nephritis it seems to be an arteriosclerotic form. That is the type in which we do not get fixation, and in which oftentimes the non-protein nitrogen is not excessively high.

DR. J. H. MEANS: Students often ask whether one can have uremia and negative chemical tests. I suppose that hypertension and wet brain will explain the whole picture, don't you?

DR. SMITH: It seems to me that edema of the brain or some change of circulation in the brain will better explain the case than hypertension with uremia. I was not satisfied with the uremic side of it, although we had cardiac hypertrophy, hypertension, and the peripheral sclerosis.

DR. YOUNG: Have you ever seen uremia with as good chemical tests as this?

DR. SMITH: I never have. There is no mention of casts.

MISS PAINTER: I have stopped entering casts in these summaries. There were hyalin and granular casts here.

DR. SMITH: The only valuable casts would be epithelial or casts containing epithelial cells, fatty.

MISS PAINTER: There were none.

DR. YOUNG: Was there a catheter specimen?

DR. SMITH: I am not sure, but I think there was. Of course we pay no attention to leucocytes; we should to blood if it were constant sediment in a catheter specimen. It is quite striking that we do find blood in the urinary sediment with the arteriosclerotic kidney when we do not find anything else. I always supposed it was characteristic of hypertension. Personally I have used this point of differential diagnosis favoring arteriosclerosis of the kidney many times in these exercises, and up to the present the condition has been found to be arteriosclerotic.

DR. MERRILL: The X-rays of the sinuses and teeth were made for the location of a possible septic focus. Those of the heart confirmed the clinical findings. There was a much enlarged heart shadow. It seemed much larger than usual with a simple hypertrophy, compared with the chest diameter. Of course this was a very thin woman with a narrow chest, but the heart shadow was very much out of proportion.

DR. SMITH: In other words, she had too big a heart for her chest; it was too big for simple hypertrophy; it was too big for her.

DR. YOUNG: Would you venture a guess as to the size of these kidneys?

DR. SMITH: I do not think they will be

shrunken. I do not think we have an atrophic kidney here.

NOTE BY DR. A. V. BOCK

The patient's history with respect to anorexia, nausea and vomiting suggests the presence of nephritis. The result of the laboratory examinations, however, is all against it. The variation in specific gravity of the urine, the normal night amount of urine, the phenolsulphonephthalein tests, the non-protein nitrogen of the blood, except for the value obtained shortly before death, are all against nephritis. The absence of anemia is against nephritis. In a series of 25 cases of chronic nephritis proved at necropsy in this hospital no case was found with a hemoglobin above 60%; the red count ran from 2,000,000 to 3,500,000. Almost all of these cases had a leucocytosis of the order shown by this patient. I feel that the weight of evidence in this case points to essential or vascular hypertension, and that the changes found in the kidneys will not be very great.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Hypertension.  
Chronic nephritis.  
Hypertrophy and dilatation of the heart.

DR. WILLIAM H. SMITH'S DIAGNOSIS

Hypertension.  
Hypertrophy and dilatation of the heart.  
Arteriosclerosis, general.  
Some arteriosclerotic nephritis.

ANATOMICAL DIAGNOSIS

1. *Primary fatal lesions*

Arteriosclerosis.  
Arteriosclerotic degeneration (amyloid?) of the kidneys.

2. *Secondary or terminal lesions*

Hypertrophy and dilatation of the heart.  
Mural thrombi, left ventricle.  
Chronic passive congestion, general.  
Anasarca.  
Beginning hydrothorax, hydropericardium, and ascites.  
Infarcts of the right lung.  
Acute pleuritis, right.

DR. RICHARDSON: We were not permitted to examine the head. Below the hair-line on the forehead there was a distinct row of engorged cutaneous vessels extending across the forehead. The feet and ankles were swollen and pitted on pressure. There was a little swelling in the region of the elbows with pitting, and some pitting in the lumbar region. The subcutaneous tissues were wet.

The peritoneal cavity contained a small amount of thin pale clear fluid. The gastrointestinal tract showed a reddened velvety

mucosa, saturated with thin bloody fluid,—the typical picture of chronic passive congestion.

There was about 300 c.c. of fluid in the right pleural cavity, 100 in the left,—the beginnings of hydrothorax.

We found much bloody fluid in the trachea and bronchi; the mucosa was dark brownish red. The lungs showed the typical picture of chronic passive congestion. The only other thing noted was that in the right lung there were four large infarcts. On the pleural surfaces over these infarcts there was some fibrinous material,—a little fibrinous pleuritis.

The pericardium contained 250 c.c. of thin pale fluid—the beginnings of hydropericardium. The heart weighed 560 grams. That is marked enlargement. (Normally 200-300.) The myocardium was good, macroscopically and microscopically. The walls were thick, four mm. on the right, fourteen mm. on the left. The columnae carneae were thick. There was slight dilatation on the left, considerable dilatation on the right. The right cavities were engorged with blood and blood clot. In the region of the left ventricle there was a frank thrombotic mass, and a few c.c. above this a few other small ones. The mitral valve measured 10 cm., the aortic 6 cm., the tricuspid 13 cm., the pulmonary 7.5 cm., all negative. The coronaries were free and fairly capacious, with a few fibrous plaques scattered over the intima. Above the diaphragm the aorta showed a moderate amount of fibrous sclerosis; below considerable diffuse fibrosis, with no definite calcareous changes. The great branches showed considerable fibrosis.

The liver weighed 1270 grams and was a typical nutmeg liver,—marked chronic passive congestion. The spleen weighed 155 grams. While the bulk of the organ was not very great it was thick, chunky, and the tissue elastic.

The left kidney weighed 157 grams, the right 120 grams. The capsule of the right kidney was slightly adherent. The tissue showed chronic passive congestion; some increase of consistence, the markings fair, the cortex five mm. In places in the cortical region there were some fine grayish areas, presumably areas of fibrosis. The left kidney, which was the heavier one, had a capsule which came off easily, the tissue very much like the other, only not showing the gray areas. The cut ends of the vessels in each kidney were rather prominent, that is, showing fibrosis. The picture grossly was one of arteriosclerotic degeneration, and the sections altogether did not show enough change in the kidneys to warrant anatomically the diagnosis of chronic nephritis. It was arteriosclerotic degeneration of the kidneys, with hyalin changed walls of the smaller arteries suggesting amyloid.

The bladder showed a reddened mucosa.

The heart seemed somewhat large for the anatomical findings, as happens every now and then.

CASE 10313

A Portuguese housewife of twenty-three came to the Emergency Ward April 26.

F. H. and P. H. not recorded.

P. I. April 22 at the end of a normal pregnancy, her first, she had a forceps delivery terminating twenty-four hours of labor. The perineum was torn and repaired. Almost immediately she began to have severe pain in the lower abdomen, fever, malaise, sweats, chills, and some nausea and vomiting. The lochia was scant and increasingly foul. These symptoms, with considerable distension, had continued.

P. E. A well nourished woman, flushed and sweating. Tongue red and dry. *Lungs* normal. *Heart*. Apex impulse not found. No measurements recorded except left border of dullness 8 cm. from midsternum. No murmurs. *Abdomen*. Atonic abdominal wall, distended and tense, the size of a nine months' pregnancy. Fundus (?) felt midway between umbilicus and symphysis, slightly tender. A hard mass (fundus?) in right iliac fossa extending upward to McBurney's area, not tender. In left iliac fossa and flank excruciating tenderness and as much spasm as the stretched muscles could offer. Peristalsis audible. *Pelvic examination*. Vulva edematous. Stitches of recent perineal repair. Lochia serosanguineous, moderately foul, scant. *Rectal examination*. Marked tenderness on uterine manipulation of any sort. Cervix and os apparently normal. A large mass behind cervix, (fundus? inflammatory?) very tender, extending all the way across.

Before operation T. 98.1°-102.5°, P. 80-130, R. 23-38; urine, amount not recorded, sp. gr. 1.020 at both of two examinations; the second, a catheter specimen, showed rare leucocytes and red blood corpuscles. *Blood* before operation, leucocytes 22,000 at two examinations. *Obstetrical consultation*. Ice bag to abdomen. Ergot 3 i t.i.d. Force food. Fresh air.

In spite of poultices, enemas, rectal tubes, etc., the distension was increased April 27. The general condition of the patient however seemed better. No peristalsis was audible. The tenderness in the left flank was much better. The pulse was good. She was given turpentine supes, pituitrin one ampule, repeated in one hour, and magnesium, glycerin and water enema. April 29 she was better. The distension was less. Audible peristalsis was now present. The lochia was very foul. May 1 there was dullness and increased resistance in the left flank and costovertebral region, with tenderness and as much spasm as she could muster. The fundus seemed to be half way between the symphysis and the umbilicus, with masses each side of it. It was not acutely tender.

May 2 operation was done. The patient was comfortable next day, with less tenderness in the

left flank. The abdomen was less distended, and more resistance could be exerted. The lochia was still foul. A blood culture was negative. May 5 the temperature was normal in the morning, although it rose in the afternoon to 101°. The flow was now pure pus, no blood. Three packs were required in twenty-four hours. The signs in the left flank were disappearing. The discharge continued to be less in amount and less foul. On the seventh she was up in a chair. That evening the temperature rose to 102.8° and the respirations to 54. She complained of slight pain in the right lower chest. Examination showed slight dullness in the right lower axilla and back. The breath sounds were diminished. There were no râles, friction rub, cough, sputum, or change in fremitus. X-ray showed some haziness of the costophrenic angle on the right. The details were obscured by motion and definite diagnosis was not possible. On the 9th the signs were the same with the addition of a few fine crepitant râles at the right base behind and in the axilla. The temperature was normal, the pulse 82-94, the respirations 23-29.

That evening she was seized with sudden severe pain in the left back. She was immediately in great respiratory agony, became cyanotic, and died in twenty-five minutes. 10 c.c. of 1/1000 adrenalin was injected into the heart about fifteen minutes after death without any effect whatever.

DISCUSSION

BY DR. EDWARD L. YOUNG, JR.

The fact that this patient began to have trouble almost immediately, with fever, chills and pain, prejudices us in favor of a sepsis and that of a rather severe type. The evidence of trouble in the abdomen, of pain, distension, nausea and vomiting, brings to mind the possibility of a ruptured uterus with sepsis, probably a septic hematoma in the pelvis.

The examination seems to bear out this suspicion in that there is a very tender mass on both sides of the pelvis.

Treatment in such a case as that depends on the obvious extent of the abdominal sepsis and the sickness of the patient. Of course any purely intrauterine sepsis must be treated on the basis of palliation, because any operative interference tends to spread the infection and carries a higher mortality. The exception to this of course is serious bleeding, which itself demands interference. Otherwise there should be no interference until after the temperature has been normal for two or three days at least; then if there is evidence of retained products in the uterus a curetting can be done. In this case it seemed wiser to palliate, and this was apparently justified in the improvement that followed the use of rest, forced fluid, and enemata. But in spite of this improvement the sepsis itself was apparently spreading somewhat. The operation

done a week after admission was an attempt to give this sepsis drainage.

We are not given any evidence that there is a pelvic abscess presenting in the vagina, so that if, as I assume, they are after the pelvic sepsis an abdominal operation is the best for this in spite of the danger of spreading the peritonitis.

#### DR. YOUNG'S PRE-OPERATIVE DIAGNOSIS

Pelvic abscess.  
Ruptured uterus?  
Septic uterus.

#### PRE-OPERATIVE DIAGNOSIS

Septic uterus.

#### OPERATION

Under ether anesthesia the patient was examined. The cervix was soft and patulous and gave off a vast amount of foul smelling pus. A large dull curette was gently introduced into the uterine cavity, but no sharp curetting done. A certain amount of fetal membrane was removed. It was thought unwise to do more at this time.

#### FURTHER DISCUSSION

Apparently the examination of the patient was less suggestive of sepsis outside the uterus than is the history, and nothing was done except to curette the uterus itself. At any rate the abdominal signs gradually disappeared, and she was slowly improving, when there was evidence of trouble at the right base of the lung. Whether this was above or below the diaphragm was impossible to say. This did not get along enough to make possible a diagnosis before the final act, which was obviously a massive pulmonary embolus.

#### CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Puerperal sepsis.  
Pulmonary embolism.  
Operation, dilatation of the cervix.

#### DR. EDWARD L. YOUNG'S DIAGNOSIS

Septic uterus. Possible rupture.  
Pelvic peritonitis.  
Pulmonary embolus.  
Possible right subdiaphragmatic abscess.

#### ANATOMICAL DIAGNOSIS

##### 1. Primary fatal lesion

Postpartum uterus.  
Subacute endometritis with rupture of cervical wall of uterus.

##### 2. Secondary or terminal lesions

Localized peritonitis.  
Localized thrombi of left uterine plexus.  
Pulmonary embolism.

Infarcts of lower lobe of left lung.  
Acute pleuritis, right.  
Acute pericarditis.  
Soft hyperplastic spleen.

DR. RICHARDSON: There was marked pigmentation of the breast areolae. The breast tissue yielded milky fluid.

The peritoneal cavity contained in the region of the lower left quadrant a small amount of purulent fluid. The peritoneum here was coated with exudate.

In the right pleural cavity there was a small amount of cloudy fluid and fibrin.

Lungs. In the region of the lower margin of the right lower lobe there were several small infarcts the pleural surfaces of which were coated with fibrinous exudate.

The pericardium contained about 100 c.c. of cloudy fluid and fibrin, and the surfaces showed areas of ecchymosis here and there,—acute pericarditis.

In the great branch of the pulmonary artery on the right in the region of its distal portion and in some of the branches within the lung there were frank branching occluding embolic masses. On the left side there were several small emboli in the branches.

The spleen weighed 250 grams, slightly enlarged. (Normally 80-180.) The tissue was mushy,—a soft hyperplastic spleen.

The uterus was enlarged, 14 cm. in greatest length by 5½ cm. in greatest circumference. The wall of the fundus was 2 cm. thick. The cervix was dilated, 4 cm. in circumference. The surface of the cervical endometrium was dirty dark red to black-red, necrotic in places, with small areas of softening and purulent infiltration. The margins of the os were slightly torn. The endometrium of the fundus was fairly clean. In the region of the left wall of the cervix there was an irregularly margined opening 2½ cm. in diameter which led into the small pool of cloudy purulent material in the pelvic cavity previously mentioned. This purulent material rested along the uterine veins, in some of which there were small thrombotic masses. The vagina showed some dilatation and a few superficial erosions of the mucosa. The tubes and ovaries were negative. There was no well marked corpus luteum.

#### SAVING CHICAGO BABIES

THE Chicago Infant Welfare Society states that the death rate among the 11,000 babies cared for by the society was only one-fourth the general infant mortality rate throughout the United States. Almost one-half the number of deaths among the babies cared for were caused by respiratory infections, which are dependent to a large degree upon conditions that must be remedied by general health measures.—*Children's Bureau, Washington.*



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### THE CAUSATION OF CANCER

FROM time to time there appears in the daily press the announcement that the specific causative agent of cancer has been discovered, or if the agent is not yet identified, some well known surgeon is quoted to the effect that it is about to be discovered. While medical men in general do not believe that cancer is due to a definite organism, very few would be able to give satisfactory reasons for that belief. It is illuminating to read the presidential address given by Dr. Willy Meyer before the American Association for Cancer Research a year ago, published in the April 1924 issue of the *Journal of Cancer Research*. Dr. Meyer reviews the work done on experimental production of cancer, and discusses the chief arguments in support of the parasitic theory.

It has been shown that cancer can be produced almost at will by long continued irritation. This may be produced by chemical or mechanical means, or by radiation. Borrel and his coworkers have demonstrated a number of times the presence of a trematode in the center of a recently formed nodule of sarcoma in the liver of mice. Various helminths have a predilection for certain organs of the human body. The frequent occurrence of cancer of the gall-bladder among the crews of certain fishing boats

in the Baltic has been traced to their custom of eating raw fish infected with the opisthorchis felineus, a trematode which finds its way to the biliary passages.

The argument that cancer must be contagious because the inhabitants of certain regions, towns, streets, houses or rooms show so high an incidence of this disease, is answered by Michaelis in these words: "Conceding the correctness of these statistics, they point to a common source, but prove nothing for the contagiousness of cancer." The "common source" Meyer believes to be infection by some trematode. The high rate of incidence of cancer in Berlin, for example, may be explained by the fact that the inhabitants consume large quantities of raw vegetables which are produced on land irrigated by the sewage from the city. Rat excrement is full of the ova of helminths. In Solesmes, in France, the portion of the population living on a rat-infested island shows a much higher cancer rate than that portion living on higher and less rat-infested territory.

No infections theory will account for the formation of benign tumors, and since the line between benign and malignant growths cannot be drawn, and since the former not infrequently change into the latter, the theory of infection by a specific agent must be ruled out. The inciting factors in the causation of cancer are mechanical, thermal, actinic, chemical, endocrine and hereditary. "They incite, but are merely incidental."

Dr. Meyer concludes his most instructive paper with the suggestion that from the point of view of cancer prevention we have another reason for the extermination of the rat, and that it might be worth while to administer prophylactic anthelmintic treatment at frequent regular intervals throughout life.

### ATTENTION!

How many physicians in Massachusetts know that a recess committee of the legislature is to be appointed to consider and report on matters relating to medical practice?

A bill was presented at the last session which, if enacted, would remove the present restrictions which hamper the Governor in appointing members of the Board of Registration in medicine.

A bill was presented which was designed to legalize the practice of chiropractic.

Both of these measures are of great importance, and will be considered by the recess committee.

Medical societies should be prepared to give the committee sound advice. The presidents of these societies should have the local legislative committees prepared to act.

President Bigelow is authority for the statement that a member of the Committee on Public Health said that no legislation relating to these matters would be enacted this year. This

is equivalent to a verdict by a jury before the case is heard.

Is it generally known that at a public hearing the House Chairman of the Committee on Public Health expressed the hope that some way might be found whereby the people of Massachusetts might secure the services of chiropractors? This House Chairman is a physician. It has been reported that he wishes to be elected to the state senate.

#### PUBLICITY RELATING TO MEDICAL MATTERS

FOR a considerable time the *Boston Transcript* has published information relating to medical affairs under the caption of "The Clinic." Mr. John Ritchie has faithfully and intelligently reported the material which has appeared in this section. The *Transcript* has decided to omit this feature.

Dr. John B. Hawes, 2nd, has written a pro- test which is reproduced below:

July 16, 1924.

Mr. George S. Mandell,  
The *Boston Transcript*, Boston, Mass.  
My dear Mr. Mandell:

I have just heard with great regret that the *Boston Transcript* has discontinued that department known as "The Clinic." As President of the Boston Tuberculosis Association, a member of the governing board of the Massachusetts Association for Occupational Therapy, and as a member of various other health organizations, I should like to register my most emphatic protest against this move on your part.

I feel very strongly that education in health matters is one of the most important functions that any newspaper can carry on and that the *Boston Transcript* is taking a very backward step in discontinuing a department which has been of use and value not only to members of the medical profession but of far more importance to the public at large. In certain medical matters the attitude of the *Transcript* has been a little bit of a puzzle to me. I have protested, for instance, to Mr. Williams against that part of its advertising matter dealing with worthy charities whereby the advertisement of the Boston Tuberculosis Association was put next to that of the Medical Liberty League. It is difficult for me to understand how any newspaper of any intelligence can have great sympathy with the aims and purposes of the Medical Liberty League.

Be that as it may, however—and this is a mere detail—I do hope that some arrangement can be made whereby the *Transcript* can continue "The Clinic."

Very truly yours,

JOHN B. HAWES, 2ND.

The arguments presented by Dr. Hawes are in conformity with the ideas which have been generally endorsed by the profession. The topics relating to medicine published in the *Transcript* have been read and favorably commented on by many physicians. If a considerable number of physicians will follow Dr. Hawes' example and write to Mr. Mandell he may feel that this feature of newspaper work is worth while.

#### THE REVOCATION OF THE REGISTRATION OF DR. PERCY A. SHURTLEFF

SOME unusual features attended the hearing conducted by the Board of Registration in Medicine July 17, 1924, on complaint submitted by residents of Springfield, Mass.

An advertisement in the *Springfield Union* had recently set forth that an institution under the name of *Electro Medical Doctors* was prepared to treat the sick by certain alleged efficacious methods and in support of the claims certificates of alleged benefits were published in the same paper. These ostentatious advertisements and the reports of people who had applied to these doctors for treatment inspired appeals to the Academy of Medicine of Springfield for some appropriate action. Some of the members of the Academy felt that the situation demanded investigation and certain people were sent to the offices of this organization for the purpose of ascertaining the facts.

Two people were found to be in attendance at the office of "The Electro Medical Doctors," one, Dr. Percy A. Shurtleff, who graduated from the College of Physicians and Surgeons in Boston in 1904, and who was registered by the Board, and the other, a Dr. Coll, who at the hearing exhibited a certificate which appeared to have been issued by the Registration Board of New Jersey. The directory of the A. M. A. has the name of Dr. James P. Coll, but the address is reported as unknown.

The method employed, according to the testimony, was, after recording the name of the patient with a brief history, to conduct the patient to a room in which Dr. Shurtleff made fluoroscopic, blood pressure, stethoscopic and other very brief general examinations. In one patient he claimed to have seen by means of the fluoroscope an aneurysm and an enlarged heart, and by the stethoscope heard a heart murmur. Subsequent careful examinations by acknowledged Roentgen-ray experts showed no evidence of any of these conditions in this particular case.

Another person was told that an abnormal appendix could be seen although that member had been removed. Dr. Shurtleff also claimed to be able to detect an engorged and encapsulated gall bladder and other abnormal conditions.

In two instances Dr. Shurtleff told the patients that he would discuss the cases with Dr. Coll and after a few minutes' absence returned to inform the patients that he and Dr. Coll agreed. According to testimony Dr. Shurtleff has remarkable hearing ability or a very excellent stethoscope for he didn't require removal of anything beyond the outside coat in his examination of the chest. His blood pressure apparatus must be an ambitious mechanism for it registered about sixty points, according to his statement, above the regular blood pressure of one of the patients.

His advice to the patients was very different

from that which one would expect, for all the patients were in good health and he evidently wished to convince the investigators that conditions were sufficiently serious to warrant treatment by his methods. His prices varied from five dollars for the examination to \$97 for two months' treatment in one case and in another he said that the cure would cost \$135, one-third down, the rest in weekly payments or ten per cent. off for cash.

Two x-ray technicians witnessed Dr. Shurtleff's examinations of two of the patients and they testified that the fluoroscopic examinations were too brief to be of any value. Two physicians, both x-ray experts, testified to the effect that some of the conditions claimed to have been seen by Shurtleff could not be seen by the use of the fluoroscope and that examination of the patients by them demonstrated the absence of conditions which Shurtleff claimed to have found.

The Board of Registration had specified two causes for action in the notice of the hearing: Association with an unregistered practitioner in carrying on the practice of medicine and fraud in dealing with the persons who asked for a diagnosis.

The Board felt that it was clearly shown that Shurtleff was associated with an unregistered person (Coll) and revoked the registration of Shurtleff. The question of fraud is on file to be taken up if occasion requires.

The lawyer for Shurtleff gave notice that he would appeal to the Supreme Court for a review of the findings of the Board. The courts will have to deal with Coll for, being unregistered, the Board has no jurisdiction over him.

This procedure reflects credit on the medical profession of Springfield, for after being made aware of the kind of practice being conducted by these doctors, several reputable men caused to be obtained the testimony which led to the hearing and the action of the Board.

It was a most distasteful task for doctors to undertake but was done after deliberate consideration by several physicians who felt that the public should be protected. These men have performed a definite service which should be appreciated by the laity and the profession.

### CORRESPONDENCE

#### MEETING OF THE MAINE MEDICAL ASSOCIATION

Dear Dr. Bigelow:

Your delegate attended the meeting of the Maine Medical Association in Portland on June 26 and 27. Scientific sessions were held both morning and afternoon on the first day of the meeting, and during the morning of the second day. In the afternoon of the second day there were clinical demonstrations arranged for by the Cumberland District Society.

In addition to excellent papers by several of the local physicians from Maine there was a well-illus-

trated lecture on skin disorders and their treatment, especially by means of the Roentgen ray, by Dr. Fox of New York. Dr. Emerson of New York also spoke on periodic health examinations, and Dr. Hamilton of Boston discussed the relation of cardiac disease to pregnancy.

Your delegate was impressed with the fact that this association does not divide itself into sections, but has just one general meeting for the scientific papers.

In these days when there is the unfortunate tendency for physicians to call in special aid for problems which they could well handle with only a little extra effort, thus dividing the responsibility on the part of the physician, and increasing the expense on the part of the patient, it is encouraging to find one state society which keeps its meeting arranged so that a discussion of all angles of a problem can be heard by the practitioners.

At the banquet here on the evening of June 26 Dr. W. A. Pusey, the president of the American Medical Association, spoke on the organization and activities of the national association. Your delegate was asked to speak and in a few words endeavored to emphasize the importance of the general practitioner taking on the responsibility of the interpretation of the reports from the specialists and making the final decision in regard to the appropriate procedure for the individual patient. It was a pleasure for your delegate to see again his friends in Maine. Your delegate also took the opportunity to bring up informally with several of the leaders in the Maine Medical Association the question of their taking a part in the management and editorship of the *BOSTON MEDICAL AND SURGICAL JOURNAL*, with a view to making this journal a representative journal for all New England, instead of just for Massachusetts.

Although there are apparently many details which will have to be provided for before such an arrangement is undertaken, the impression your delegate received was that such a plan might be put into effect in the not far distant future.

Sincerely yours,  
C. FROTHINGHAM.

#### THE POSITION OF MEDICINE IN SOVIET RUSSIA TODAY

##### UNIVERSITIES AND HIGH SCHOOLS UNDER THE REDS

Mr. Editor:

The arrival of Russian scientific journals, chiefly chemical, but with important references to medical research, is a sign that the new movement towards stability and order in Russia is gaining strength. Readers of Russian medical literature will doubtless recall that after the collapse of the Kerensky regime the better known medical journals suffered an eclipse, when they did not actually go out of existence. The *Russky Wratsch* ceased to appear, but its place has now been taken by the *Sovietized Journal of Medicine*, the *Wratschebnoe Delo*, which, judging by the last two issues, has been appearing regularly since 1922. It shows that the work of Russian physicians, in spite of the trying experiences of medical men during the first years of the Bolshevik war on the "bourgeoisie," is at last being appreciated. For even in Russia, Communist conflicts are dying down into compromise, and the revolutionary fervor is passing. For the present the medical profession seems to have weathered the worst of the storm, and ordinary common sense, the natural view of what best profits the average man, above all, the instinctive desire of the many millions in Russia to win what life may give, and the longing for something like a normal existence, are impulses which have grown too strong for Socialism of the Soviet type. The change is real, the movement is not a fictitious one that may lead to nothing, for there is

abundant proof in these publications that chemists, bacteriologists, biologists and physicians have been given a new opportunity which they have been quick to seize.

Professor Abramoff gives an interesting account of the mortality of Russian physicians. War, revolution, famine and pestilence took a heavy toll. The total number of teachers is surprisingly small. According to the census of 1923 there were only 4553 professors in the Union of Socialist Soviet Republics, or in a population of nearly 130,000,000 people. Of these, 50 per cent. live in Moscow and Leningrad, and 15 per cent. in the Ukrainian cities of Kiev, Odessa and Kharkov. Professor Abramoff, who is a military surgeon, tells us that during the war 20 per cent. of the medical staff of the Red army died of typhus. In another article on the Mortality of Doctors in Russia from 1915 to 1923, Professor Shbankoff supplies some further details. The figures are not altogether clear, but it seems that the annual death rate of physicians rose from an average of 223 per 1000 in 1915 and 1916 to 452 in the famine years of 1919 and 1920. During the typhus epidemic of these two years, out of 1841 physicians at work 1096 succumbed to typhus, or 59.5 per cent., and among women doctors the mortality was 63.2 per cent. On the other hand, the mortality of the nurses was only 8.5 per cent. It would be interesting to know whether the hardships and privations of medical men could have contributed to the death rate. A very striking detail is the large number of women serving as doctors in the hospitals and Red army. A sinister circumstance is the grim total of suicides among military surgeons. As many as 10 per cent. killed themselves in 1919 and 1920, and 20 were executed for "State judicial" reasons. Possibly these men were members of the "intelligentsia." The terrible story of the sufferings of physicians in Russia will perhaps never be told.

Dr. Horbatschewsky, well known to those who studied at Vienna, has written a vivid account of his experience in the Ukraine and of what he saw of the working of the Soviet system in that unhappy country. The Bolshevik authorities changed the old universities of Charkov, Kieff and Odessa, and set up institutes, medical, technical, pharmacological, and institutes of agriculture and arts. The historic universities are, if not actually closed, "silent." The medical students of that part of the Ukraine which once belonged to Russia are not admitted to the Polish university of Lemberg or the Rumanian university of Czernowitz, but they have, as a sort of compensation, a university at Prague, with 550 students. Russia has also lost the control of the universities of Riga, Dorpat, and Kovno, and Helsingfors. Of the Russian schools of chemical and medical research the first place is now taken by Kazan and Moscow, the former with Klaus, the discoverer of ruthenium, Zinin and Butleroff. Four medical schools are now open in the Ukraine, at Kieff, Odessa, Charkov and Ekaterinslav, and there is a new State Laboratory of Physiology at Odessa. In the new Academy of Science of the Ukraine, an academy for physicians, the Soviet government has replaced the old university with an institution where advanced research work is carried on. Of great interest is the publication of some fine studies on benzarsan, "914," a substitute for salvarsan, malaria, and insulin, which seems to be prepared in Russian laboratories.

The ravages of malaria in Russia continue unchecked. Dr. Dobrutzer, at the All-Russian Malaria Congress at Moscow in March of this year, stated that malaria had increased from 3,300,000 cases in 1912 to over 5,000,000 in 1923. In some districts, notably the Don, the fever is often of a virulent kind. It is obvious that special efforts are needed to combat the scourge, which has a mortality variously estimated at from one-half to 2 per cent. Dobrutzer points with natural pride to the progress so far

made; the number of malaria stations has greatly increased; in 1921 there were only 8, in 1922 there were 34, but at present, besides the Institutes of Tropical Medicine at Moscow, Charkov and Eriwan, 103 are working, and the 1924 program of the Congress has the establishment of 64 new stations in view. It is curious to find the words "program" and "organization" so often recurring in Soviet literature. There are programs for enlarging not only industry but also medicine and chemistry. Already some of these schemes have taken shape, such as the Institute for Tuberculosis in Leningrad, the Institute for Physical Culture, where deficient children receive medical care and treatment, Mothers' Welfare Stations, High Schools, and so on. To do them justice, the Soviet authorities seem to be striving to improve the national health and physique. The fact represents the release of that fundamental common sense which had been obscured and distorted by hasty prejudices, presuppositions and fanaticism. Probably history will repeat itself; and just as Russian medical science produced some of the very best work, so it may give again to the world worthy achievements in what, it may be hoped, is a not far distant future.

P. BARTHOLOW.

12 Forest Street, Cambridge.

## MISCELLANY

### MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

#### RESUME OF COMMUNICABLE DISEASES FOR JUNE, 1924

##### GENERAL PREVALENCE

The diseases showing an increase over the previous month were dog-bite requiring anti-rabic treatment, encephalitis lethargica and epidemic cerebrospinal meningitis.

	June 1924	May 1924	June 1923
Dog-bite requiring anti-rabic treatment	38	17	24
Encephalitis lethargica	11	8	8
Epidemic cerebrospinal meningitis	20	8	5

##### RARE DISEASES

*Actinomycosis* was reported from Brookline, 1.

*Anterior poliomyelitis* was reported from Boston, 1; Easthampton, 1; Fall River, 1; Lynn, 1; Medford, 1; total, 5.

*Anthrax* was reported from Lowell, 1.

*Dog-bite requiring anti-rabic treatment* was reported from Arlington, 3; Billerica, 1; Boston, 5; Hudson, 1; Lincoln, 1; Littleton, 2; Lowell, 18; Malden, 1; Mansfield, 1; Somerville, 1; Tyngsboro, 2; Winthrop, 2; total, 38.

*Encephalitis lethargica* was reported from Arlington, 1; Boston, 2; Clinton, 1; Lynn, 1; Melrose, 3; Newburyport, 1; Oxford, 1; Somerville, 1; total, 11.

*Epidemic cerebrospinal meningitis* was reported from Adams, 1; Boston, 5; Brockton, 1; Cambridge, 4; Fall River, 1; Gardner, 1; Lynn, 1; Plymouth, 1; Salem, 1; Webster, 1; Woburn, 1; Worcester, 1; Waltham, 1; total, 20.

*Dysentery* was reported from Boston, 1.

*Hookworm* was reported from Boston, 2.

*Malaria* was reported from Belmont, 1; Boston, 1; Everett, 1; New Bedford, 1; total, 4.

*Septic sore throat* was reported from Boston, 3; Leominster, 1; total, 4.

*Smallpox* was reported from Brockton, 1; Buckland, 1; total, 2.

*Tetanus* was reported from Lowell, 1; North Adams, 1; total, 2.



Trachoma was reported from Boston, 7; Cambridge, 1; total, 8.

## DISTRIBUTION

## All Communicable Diseases

	June 1924	June 1923
Total cases (all causes)	7,350	8,374
Case rate per 100,000 population	183.6	210.9

## Certain Prevalent Diseases

	June 1924	June 1923
Diphtheria:		
Total cases	532	613
Case rate per 100,000 population	13.3	15.4

Cities and towns noticeably exceeding their median endemic indexes\*:

Middleboro	(0)	10	Gloucester	(0)	9
Boston	(186)	208	Malden	(12)	20
Marlboro	(1)	7	Lawrence	(5)	14
Norwood	(1)	6			

	June 1924	June 1923
Measles:		
Total cases	2,392	2,985
Case rate per 100,000 population	59.8	75.2

Cities and towns noticeably exceeding their median endemic indexes\*:

Barnstable	(2)	27	Wakefield	(34)	59
New Bedford	(6)	22	Medford	(20)	106
Plymouth	(1)	7	Somerville	(20)	74
Brockton	(4)	13	Waltham	(9)	32
Cambridge	(87)	143	Clinton	(0)	28
Framingham	(4)	71	Hopedale	(0)	7
Franklin	(0)	33	Lancaster	(0)	24
Holliston	(0)	28	Milford	(5)	19
Natick	(0)	55	Winchendon	(0)	6
Newton	(28)	182	Deerfield	(0)	12
Quincy	(59)	114	E. Longmeadow	(0)	9
Sharon	(1)	38	Holyoke	(2)	34
Wellesley	(1)	54	Springfield	(7)	46
Beverly	(1)	19	Ware	(0)	8
Hamilton	(1)	25	Westfield	(1)	10
Peabody	(4)	58	Greenfield	(1)	10
Swampscott	(2)	39	Orange	(0)	7

	June 1924	June 1923
Scarlet Fever:		
Total cases	911	1,054
Case rate per 100,000 population	22.8	26.6

Cities and towns noticeably exceeding their median endemic indexes\*:

Boston	(145)	Wakefield	(1)	6	
Cambridge	(12)	Winthrop	(3)	8	
Frammingham		Belmont	(0)	11	
Milton		Hudson	(0)	5	
N. Attleboro	(0)	6	Medford	(7)	33
Stoughton	(1)	12	Fitchburg	(0)	22
Wellesley	(0)	5	Leominster	(1)	12
Weymouth	(2)	13	Springfield	(13)	36
Haverhill	(3)	14	Westfield	(0)	8
Malden	(10)	35	Dalton	(0)	18
Melrose	(2)	11	Greenfield	(2)	17
Revere	(3)	8	Pittsfield	(2)	10
Salem	(6)	20			

	June 1924	June 1923
Typhoid Fever:		
Total cases	36	44
Case rate per 100,000 population	.9	1.1

	June 1924	June 1923
Whooping Cough		
Total cases	223	708
Case rate per 100,000 population	5.6	17.8

Cities and towns noticeably exceeding their median endemic indexes\*:

Attleboro	(1)	8	Hudson	(6)	12
Fall River	(4)	29	Westboro	(0)	9

	June 1924	June 1923
Tuberculosis, pulmonary:		
Total cases	491	490
Case rate per 100,000 population	12.3	12.3

	June 1924	June 1923
Tuberculosis, other forms:		
Total cases	103	70
Case rate per 100,000 population	2.6	1.8

\*The Median Endemic Index is obtained by arranging in arithmetical sequence the monthly totals of reported cases for the past five years and selecting the middle figure. The numbers in parentheses after the name of each city and town indicate the median endemic index for that city or town; the numbers without parentheses indicate the cases reported during the current month.

DISEASES REPORTED TO MASSACHUSETTS  
DEPARTMENT OF PUBLIC HEALTH

WEEK ENDING JULY 19, 1924

Disease	No. of Cases	Disease	No. of Cases
Anterior poliomyelitis	3	Ophthalmia neonatorum	22
Chickenpox	47	Pellagra	2
Diphtheria	103	Pneumonia, lobar	33
Dog-bite requiring anti-rabic treatment	8	Scarlet fever	83
Encephalitis lethargica	1	Septic sore throat	3
Epidemic cerebrospinal meningitis	4	Syphilis	31
German measles	18	Tetanus	1
Gonorrhea	113	Suppurative conjunctivitis	21
Hookworm	1	Trachoma	2
Influenza	1	Tuberculosis, pulmonary	132
Measles	229	Tuberculosis, other forms	20
Mumps	76	Typhoid fever	9
		Whooping cough	60

REPORT OF THE MEETING OF THE  
AMERICAN PROCTOLOGIC SOCIETY,  
JUNE 22-25, 1924

"QUO VADIS," PROCTOLOGIST

## Presidential Address

Ralph W. Jackson, M. D., F. A. C. S., Fall River, Mass.

The writer said that the twenty-fifth anniversary of the Society was an appropriate time to consider its future and that of proctology. The development of any specialty was due to the need of better work in that particular line and this had been specially true of proctology. As there is need of general practitioners in rural communities, so there is need of proctologists in other than the largest cities. New England was cited as an example of such need. The need is general and offers a profitable field for specialization. The American Proctologic Society and the Section on Gastro-enterology and Proctology of the A. M. A. should take the lead in encourag-

ing such specialization. Recommendations of past presidents of the former along this line have not lead to adequate action. Too few of the Fellows have carried the burden of the work. The Secretary has the greatest opportunity for advancing proctology, but must have co-operation. The papers collected in the Transactions are more likely to be consulted than when sporadically published in the journals. The transactions are widely distributed and in demand by young proctologists, and offer the most permanent publicity. A special journal in proctology would do much to advance the specialty, but is impracticable at present. Some method of keeping all proctologists posted on current events is desirable. Not all Fellows can write books, but all have something to contribute to proctologic knowledge, and can best do it through the Transactions. Elementary proctologic teaching in schools is far below par, and the graduates correspondingly ignorant. Too many good proctologists are not affiliated with the Society, but should be for their own good and that of the specialty. A list of such men should be compiled, and the Associate Fellowship should be the means of accomplishing the desired affiliation. Finally the writer said that, though the Society had accomplished much for proctology in the past twenty-five years, only an intensive campaign by the Society, by every Fellow, and by every one who ought to be a Fellow, would give the specialty the future it deserves.

#### PROTOZOAL INFECTION AND THE RELATIONSHIP TO DYSSENTEREY

By G. Milton Linthicum, A. M.; M. D.; F. A. C. S., Baltimore, Md.

A historical synopsis is used not alone for its interest, but to associate it with the present recognized classification of Ciliata, Flagellata, Amoeba and Coccidia. The life history of the various groups calls attention to the cycle completed within the host; the feeble vitality of the organism outside, as contrasted with the virility within the tract; the manner of dissemination by the cysts alone, and the danger of unbroken sanitary provisions. Danger of epidemics of infection is slight, while increased number of cases are to be expected, as travel in the tropics increases. The possibility of protozoal infection is suggested in chronic or intermittent diarrhoeas. Parasitism is a term not applicable to all the protozoa as it suggests baneful influences while only the Amoeba histolytica and Balantidium Coli, have been incontrovertibly proven guilty.

Further pathological studies are needed, also a study of the relationship of absorption from intestinal lesions, and the depression associated with these infections is suggested.

#### POSTURAL DEFECTS AFFECTING THE RECTUM

C. C. Melching, M. D., Pittsburgh, Pa.

A variety of pains referred to the ano-rectal region but of obscure origin, are believed to be due to a faulty sitting posture. These pains are referred through the sacral plexus. Orthopedists recognize four points in the spine usually strained and of these lumbosacral region is the part most exposed to pain.

Strain results from weight and pressure applied to the coccyx and sacrum from unnatural directions. The skin over the coccyx and sacrum show keratoses, while the usual keratotic areas over the tuberosities of the ischia are absent. The diagnosis is made from the history of vague pains, the characteristic skin changes, and absence of lesions in the bowel.

#### PRECANCEROUS CONDITIONS ABOUT THE RECTUM

Arthur A. Landsman, M. D., New York

The writer mentions the large mortality from carcinoma in general, and cites statistical data to prove that the disease is steadily on the increase. After quoting authorities to prove that there are wide differences of opinion about the causes which are held responsible for the origin of carcinoma, he goes on to state that there is an agreement on two points: (a) that in a certain proportion of cases cancer is preceded by long continued irritation, (b) there is in most instances an abnormal state of the tissues at the site where malignancy develops, such as erosions, ulceration, hypertrophies, cicatrices, benign growths, etc. He refers to some personal cases in which apparently innocent anorectal lesions were transformed into malignant tumors and submits similar examples from literature. The author groups the pathological conditions about the anorectal region which are liable to malignant degeneration as follows:

1. Any indolent sore, erosion, crack, fissure, ulcer, wound or break in the tissue, which, in the absence of unfavorable constitutional conditions, fails to heal. Especially when this is located at the recto sigmoid, mucocutaneous junction, at the base of one of the valves, at the point of attachment of supposedly innocent growths, about folds or situations where there is an abrupt change of structure or locations where it is exposed to repeated bruising.

2. Benign neoplasms which are soft, highly pigmented multiply in great numbers, grow rapidly, extend steadily, have a tendency to grow on a broad base rather than on an elongated pedicle and recur after removal.

3. Any long standing irritative disease or process about the rectum, such as fistula, stricture, prolapsed rectum, diverticulitis, the skin changes which follow chronic anal pruritus, peri-

anal dermatitis, eczema, leukoplakia, may in time result in malignant degeneration.

4. Inflammatory lesions due to tuberculosis or syphilis may have carcinoma engrafted upon them.

5. Malformations and congenital tumors occasionally acquire a malignant character.

Concluding, he advises that since it is impossible to foretell when any of the above may undergo malignant transformation that ALL of them be promptly corrected or removed whenever this can be done, as a truly preventive treatment of carcinoma.

PLEA FOR THE SUBSTITUTION OF PERINEAL AND VAGINAL EXTIRPATION FOR "KRASKE'S" AND THE "COMBINED OPERATION WITH PERMANENT COLOSTOMY" IN THE TREATMENT OF ANO-RECTAL CANCER

S. G. Grant, M. D., New York

Kraske's sacral excision deserves a place in the discard because it is difficult, requires considerable time, is bloody, destroys pelvic support and convalescence is prolonged because of the length and nature of the wound, a sacral anus is left, the patient is unable to defecate in the normal position, a sensitive scar or tender end of the bone troubles the patient afterwards and the anus is prone to contract and require subsequent dilatation.

This procedure has no advantages over vaginal or perineal excisions which can be performed in a few moments, mortality of which is materially less than from sacral extirpation, is seldom accompanied or followed by complications or sequela and confines the patient in the hospital for a short time.

The writer contends the combined operation ought to be abandoned because of the high mortality, it is difficult and prolonged, leaves the patient with a disgusting permanent artificial anus and is unnecessary because high growths can be extirpated by resection and cancers involving the lower sigmoid and rectum are quickly excised by the perineal and vaginal routes the mortality from which is four times less, convalescence is much quicker and complications and sequela are seldom observed.

The writer has had little difficulty in mobilizing the bowel sufficiently to remove the growth and suture it to the anus and has only once observed recurrence in or about the pelvic colon, which indicates that the removal of high glands and adjacent gut are less important than supposed and that the extirpation of lymph nodes located in the per-rectal fat is usually sufficient. Hence perineal and vaginal excision should be substituted for the unwarranted serious abdomino-rectal procedure with colostomy in cancers involving the rectum and recto-sigmoidal juncture.

"OBSERVATIONS RELATIVE TO THE SPASTIC COLON"

Edward B. Kaple, M. D., Syracuse, N. Y.

The writer does not attempt to present any new or original contributions on the subject of enterospasm, but feels that too little consideration has been given the subject in the text books on diseases of the anus, rectum, and colon.

A study of the records of those cases of constipation who have consulted the writer, excluding those of an obstructive type due to malignant or benign growths, adhesions, or anatomical abnormalities, shows the spastic type to constitute over 30% where it has been possible to include an X-ray study in making the diagnosis; if those cases which he believes to have been spastic, but was unable to definitely prove them so, are included, the percentage is even higher. If these figures are an approximate estimate of the comparative frequency of spastic constipation, then its importance becomes obvious.

The writer quotes from many text books to show a recorded view that this type of constipation is comparatively rare; that when present it is most often secondary to some diseases of the nervous system, faulty position of the kidney or colon, some toxic or chemical irritant, or to some gastric or intestinal disease. He states as his experience and his conviction, that it is not at all uncommon, and while admitting all the above causes to be at times present and active, yet the most frequently prevailing etiological factor he believes to be some irritation focus in the rectum.

The writer contends that if there be any truth in the idea of irritation resulting from gastric, intestinal, or gall bladder pathology, or even from a displaced kidney, producing a reflex spasm of the colon, that it is equally logical to assume that the irritation from lower rectal pathology may pass through the above mentioned nerve paths to the plexuses of Aurbach in the colon.

In view of the writer's belief that rectal irritation is the most frequent etiological factor, the necessity for a complete and painstaking rectal and sigmoid examination in every case of bowel dysfunction (persistent) becomes evident. The writer states that he has been unable to note any particular anal, rectal, or sigmoidal pathology that of itself justifies a diagnosis of enterospasm, and that the value of such examinations is in the finding of areas of irritative pathology. Such pathology need not be serious nor extensive, but any condition provocative of local irritation, plus individual hypersensitiveness, may be sufficient. Special mention is made of irritable crypts.

Regarding treatment, the writer considers only those cases in which the etiology is within the colon or rectum, assuming the correction or exclusion of gastric, gall bladder, or intestinal factors. Habits, diet, medication, and relief of

local pathology are all rather fully discussed. The writer's aim in treatment, briefly stated, is to produce a minimum of spasticity through regulation of diet, along lines fully discussed; to maintain a constantly soft, unirritating stool without stimulation of secretory or motor function; to control the persisting spasticity by medication while the search for and removal of the focus of irritation is going on. Case reports.

#### SACRAL ANESTHESIA IN PROCTOLOGY

Louis E. Moon, M. D., Omaha, Nebr.

A brief review of sacral anaesthesia with technique, its indications and contra-indications, and a resumé of 400 cases.

#### THE CHARLATAN PROCTOLOGIST

Jack Halton, M. D., Sarasota, Fla.

Probably no branch of pathology suffers more from the charlatan and the quack than that pertaining to rectal diseases. Indeed a large part of the rectal cases that come to the specialist who has devoted his time for years to a study of this branch of human suffering and its alleviation have first been treated by the druggist and patent medicine vendor, then by the general practitioner or a fake advertising specialist. The charlatan in medicine is an impudent pretender to the healing powers he does not possess. The quack is an ignorant charlatan.

Both terms are often wrongfully applied to irregular practitioners, the thousand and one graduates of Class A colleges legally registered in their different states; the advertising M. D.'s; the mail order M. D.'s and last but not least by an means the advertising rectal specialists or proctologists.

Why is the charlatan proctologist, and who is to blame for his success? What are his methods of treatment and of procuring patients? Naturally the non-operative treatment of hemorrhoids is the most prolific field for the proctologic quack.

The bare mention of "operation" or "knife" is abhorrent to many people. By the nature of things the patient is not keyed up by the more or less public exploitation of his or her pain and suffering. It is one of the ailments which Victorian conventions compel us to carry in smiling silence. Promises of painless cures, bloodless cures and cures without detention from business sound good to the prospective patient who will accept the advice of a charlatan and place himself under his care rather than undergo the slight operation the case may demand.

This is not a plea for the injection method of hemorrhoids, though wonderful results accrue therefrom.

Of course there are tricks in all professions as well as all trades and the hard working ethical

physician and surgeon knows little of the tricky methods that have made wealth for hundreds of so called rectal charlatans, men who are using secret formulas and selling the same along with their special technique and instruments.

It is the aim of the charlatan and quack to create in their patients a feeling of awe—to impress them with the idea that the operator is possessed with psychic power and almost supernatural knowledge. It is to the credulity of the people in general and his own blatant effrontery that the charlatan is a success in the matter of money getting. The public is always on the lookout for something out of the ordinary, something hidden and mysterious and the more nearly it approaches the magic and the occult the harder they fall. And this goes with a certain class of newspapers as well. There is no news in the fact that the physician effects cures by the dozens and scores 365 days in the year. That is what he is employed for and the public never hears of it. But let it be reported that a lame girl has thrown away her crutches or a blind child been given sight by the laying on of hands of some itinerant quack, it would be spread before ten thousand readers without investigation, and believed without investigation.

#### "VACCINES IN THE TREATMENT OF PRURITIS ANI"

J. F. Montague, M. D., New York

Bacterial infection of the skin in a pruritic area is liable to occur in all cases. That it does not occur in 100% of the cases is due either to efficacy of the local barriers, to invasion, i. e., the resistance of normal skin and mucosa to invasion, or to the efficacy of the immune powers of the body cells and plasma fluid to resist such invasion. When pruritus continues for any length of time the local barrier to infection is weakened or broken by the scratching and rubbing incidental to efforts at relief from the itching. This may be observed clinically in the form of excoriations or erosions. With such breaks in the skin bacterial invasion is rendered easy. The only factor which can prevent infection then is the immune powers of the cells and plasma fluid. When this is normal, invasion is successfully resisted. When it is not up to normal invasion is certain to occur. Hence the author urges the use of suitable vaccines in all cases of pruritus showing excoriations or abrasions. The object of such vaccines is to increase immune bodies to such an extent as to successfully resist and destroy invading bacteria. In such a situation the use of vaccines is an auxiliary curative measure. But to go one step further in the intelligent use of vaccines;—they may be used as prophylactic against invasion in every case of pruritus for the reason that then should excoriations or erosions occur the immune bodies will be preponderant from the start and in-



vasion will be rendered less likely. The author uses successfully a vaccine of those organisms which his bacteriological researches have proven the causative agents in such invasion, namely the *Staphylococcus albus* and *B. Coli*.

#### THE INJECTION TREATMENT OF HEMORRHOIDS

A. H. Earley, M. D., Denver, Colo.

A microscopic study of hemorrhoids including a series of cases showing the successive changes occurring twenty-four hours up to twenty-one days after injection. A brief synopsis of the result of over forty thousand injections.

#### TRUE DERMOID CYST OF THE ANTERIOR WALL OF THE RECTUM

J. F. Saphir, M. D., New York, N. Y.

The writer reported the following case: A woman of 38, married 17 years, when delivered of her sixth child with the aid of low forceps, expelled by rectum a large hair ball matted together with a caseous substance. She denied having swallowed any hair, and the color of her own hair was very dark, while the hair ball was distinctly blonde. Four days after delivery, the writer was called to determine the cause of the patient's severe gas pains which could not be relieved, and when attempts at giving "high colon irrigations" were made, she passed much free blood.

Examination revealed a large ulcerated cavity about two and a half inches above the anal opening on the anterior wall of the rectum, and extending for about two inches upward to the base of one of the rectal folds, at about the recto-sigmoidal junction. This cavity extended for about one and one half inches transversely involving about one half of the circumference of the bowel, and was filled with clotted blood and granulations, and there was also oozing of fresh blood. The upper lip of the ruptured cyst was oedematous and was interfering with the passage of gas or feces, and insertion of the irrigating tube caused bleeding by breaking off some of the granulating tissue.

A diagnosis of Ruptured Dermoid Cyst of the anterior wall of the rectum was made. A gynecologic examination revealed the presence of normal tubes, ovaries and adnexa, and no connection between the pelvic organs and this dermoid cyst.

The case was presented on account of its being very rare.

#### AN OPERATION FOR THIRD DEGREE PROLAPSE OF THE RECTUM AND SIGMOID

Louis J. Hirschman, M. D., F. A. C. S.,  
Detroit, Mich.

##### Abstract

After briefly discussing the etiology of intussusception or third degree prolapse of the rec-

tum and pelvic colon, a method used since 1908 for the restoration of the mesentery of the pelvic colon to its normal size and position is described.

The abdomen is opened under the anesthetic of choice, and by obliterating the intra-sigmoidal fossa by parallel rows of cat gut suture, the prolapsed bowel is drawn out of its abnormal position, and the obliteration of the intra-sigmoidal fossa creates a mesenteric attachment in the normal position.

When the operation is completed the bowel is held in position by its normal attachment, the mesentery. It is not attached to any immovable surface, nor is any resection or deforming operation performed.

#### HAMPSHIRE DISTRICT MEDICAL SOCIETY

A REGULAR meeting of the Society was held at Boyden's Restaurant July 9 at 4.30 P. M., Dr. Harvey T. Shores (vice president) presiding, in the absence of the president, Dr. George W. Rawson.

Dr. Appleton H. Pierce, of the U. S. Veterans' Hospital at Leeds, gave a very interesting talk on "The post-war neuropsychiatric conditions." He stressed the following points: That many men are only now developing mental trouble as a result of their war experience; that a considerable proportion of the world war disabilities were neuropsychiatric in nature; that comparatively few men came back unchanged from a psychological point of view; that the majority of these men were economic assets in their communities before the war.

The treatment consists mainly in removing the men from their home environment; subjecting them to wholesome restraint and discipline; occupational therapy; a certain amount of psychoanalysis; hydrotherapy et cetera.

The opportunity exists, in these Federal Hospitals, to attack the psychiatric problems common to the community as a whole, with resources hitherto unavailable.

Dinner was served at 6 o'clock to fourteen members and guests.

PAUL A. HUDNUT, Sec.

#### JUDGES NAMED FOR THE MODERN HOSPITAL'S PRIZE ESSAY COMPETITION

Dr. Haven Emerson, Dr. Michael M. Davis, Jr., of New York, and Dr. Willard C. Rappleye of New Haven, Conn., have been named as members of the committee of award of The Modern Hospital's prize essay competition on "The Interrelationships of Hospital and Community."

Dr. Haven Emerson is professor of public health and preventable diseases at Columbia University, New York. He was at one time commissioner of health of the City of New York

and during the past three or four years has made a number of community hospital and health surveys, notably in Cleveland, Ohio, San Francisco, Cal., and Louisville, Ky.

Dr. Michael M. Davis, Jr., is executive secretary of the Committee on Dispensary Development of the United Hospital Fund of New York. Dr. Davis was for a number of years director of the Boston Dispensary and is the author of numerous books on hospital, dispensary and public health subjects.

Dr. Willard C. Rappleye is superintendent of New Haven Hospital, New Haven, Conn., and professor of hospital administration in the Yale University school of medicine. He was at one time director of hospitals for the University of California and later served as executive secretary of the committee on training of hospital executives.

This committee will meet, probably in New York, to consider the essays submitted, following the formal closing of the contest on November 1, 1924.

Registrations for the competition will be received at the Chicago office of The Modern Hospital up to September 15.

Further information may be obtained by addressing The Contest Editor, The Modern Hospital, 22 East Ontario Street, Chicago, Ill.

#### NEWS ITEMS

**WORCESTER NORTH DISTRICT MEDICAL SOCIETY.**—The Quarterly meeting was held at the Groton Country Club Inn on Tuesday, July 22, 1924, at 4:30. Speaker, Dr. Charles G. Mixer of Boston. Subject, "Some Surgical Conditions of the Kidney in Children." Dinner was served at 5:30. The golf course was available from noon until dark.

B. H. HOPKINS, *Pres.*  
C. H. JENNINGS, *Sec'y.*

**HAMPDEN DISTRICT MEDICAL SOCIETY.**—The regular summer meeting of the Society was held at the Monson State Hospital on Tuesday, July 22. The Society was the guest of Dr. M. B. Hodskins, Superintendent of the Hospital.

Dinner was served at 1:30 P. M. Following the dinner there was a short clinic and an opportunity to inspect the Hospital.

Other features were a baseball game, Monson Hospital vs. Hampden District, and sports with prizes.

HERVEY L. SMITH, *Secretary.*

**CONNECTICUT STATE LABORATORY NOW IN HARTFORD:** State Department of Health, Bureau of Laboratories, has been moved to Hartford. All material for diagnosis, water and milk analysis should be sent to the new address: Connecticut State Department of Health,

Bureau of Laboratories, P. O. Box No. 1001, Hartford, Connecticut.

The new quarters are larger than the old ones and the Laboratory will be able to take care of much more work than has been done in the past. Health officers are particularly invited to send in additional milk samples during the warm weather in order to be sure that the milk supply of the State is being properly taken care of.

#### REMOVALS

DR. WILLIAM M. CONANT has moved his office to 636 Beacon Street, Boston, Mass.

DR. DONALD V. BAKER now has his office at 40 Broad St., Boston.

DR. AUDREY C. BENJAMIN has moved from Dorchester (Norfolk) to Chelsea (Suffolk). His office is at 57 Gledhill St., Everett.

DR. GUY F. BLOOD now has his office at 20 Belgrade Ave., Roslindale.

DR. L. BOGUSY-WLAZLO has moved his residence from Cambridge (Middlesex South) to Brookline (Norfolk). His office is at 261 Hanover St., Boston.

DR. CLIFFORD A. BUTTERFIELD of Medford now has a Boston office at 520 Commonwealth Ave.

DR. SEPTIMIO CARUSO has moved from Medford to Somerville. His office is at 256 Hanover St., Boston.

DR. AUSTIN W. CHEEVER has moved his office from 270 to 472 Commonwealth Ave., Boston.

DR. WILLIAM K. COFFIN now has a residence in Arlington (Middlesex South) with an office at 366 Commonwealth Ave., Boston.

DR. OTHO L. DASCOMBE has moved from 333 to 659 Moody St., Waltham.

DR. G. W. DICKINSON now has his office at 89 Somerset Ave., Winthrop.

DR. SAMUEL EDELSTEIN of Roxbury has an office at 26 Davis St., Boston.

DR. ARTHUR ELLIS PATTRELL has removed from the Psychopathic Hospital, Roxbury, to the Sheppard & Enoch Pratt Hospital at Towson, Md.

DR. ROLAND O. PARRIS now has his office at 395 Commonwealth Ave., Boston.

DR. FREDERICK REIS has moved to 428 Park St., Dorchester.

DR. JOSEPH F. FALLON has moved from 495 to 440 Boylston St., Brookline.

DR. HARRY D. FINCK now has a residence on Brookline (Norfolk) and an office at 68 Bay State Road, Boston (Suffolk).

DR. HENRY S. FINKEL has moved from Roxbury to Brookline and has an office at 68 Bay State Road, Boston.

DR. NICHOLAS GALLAGHER now has his office at 6 Pleasant St., Malden.

DR. WALTER T. GARFIELD has moved from Cambridge to Belmont. His office is at 19 Bay State Road, Boston.

DR. GEORGE K. GORDON has moved his office from 458 to 460 Main St., Malden.

DR. GARDNER W. HALL has moved from 475 Beacon to 396 Marlborough St., Boston.

DR. FRANCIS S. HARRIS has moved from 154 Auburn St. to 26 Magazine St., Cambridge.

DR. OTTO J. HERMANN has moved from Roxbury to Brookline. His office is at 520 Commonwealth Ave., Boston.

DR. HOWARD B. JACKSON has moved his Boston office from 270 to 472 Commonwealth Ave.

DR. EDWARD KAPLAN has moved from Everett to Allston where he is situated at 1160 Commonwealth Ave.

DR. V. H. KAZAUGIAN now has a residence in Belmont and an office at 224 Commonwealth Ave., Boston.

DR. FREDERIC L. KELLOGG now has a residence in Cambridge and an office at 350 Commonwealth Ave., Boston.

DR. LEO T. KEWER has moved from 30 Harlow St. to 259 Mass. Ave., Arlington.

DR. F. C. W. KONRAD has a residence in Weymouth (Norfolk South) and an office at 270 Commonwealth Ave., Boston.

DR. WILLIAM KOPPEL has moved from Chelsea (Suffolk) to 574 Blue Hill Ave., Roxbury (Norfolk).

DR. SHERMAN R. LANCASTER now has a residence in Belmont and an office at 27 Williams St., Cambridge.

DR. JAMES S. MORRIS has moved from 648 Beach St. to 96 Shirley Ave., Revere.

DR. C. H. LIVERPOOL, of West Somerville, has moved from Highland Ave. to 116 College Ave.

DR. WILLIAM JAMES McDONALD now has a residence in Brookline (Norfolk) and an office at 395 Commonwealth Ave., Boston.

DR. LOUIS MENDELSON has changed his residence from Brookline to Dorchester. His office is at 21 Bay State Road, Boston.

DR. LEONARD P. LANDRY, of Jamaica Plain, now has a Boston office at 375 Commonwealth Ave.

DR. FREDERICK W. O'BRIEN has a residence in Brookline and an office at 465 Beacon St., Boston.

DR. EDWARD S. O'KEEFE of Lynn now has an office at 483 Beacon St., Boston.

DR. EDWARD B. ORMSBY has changed his Boston office from 350 to 395 Commonwealth Ave.

#### ANNOUNCEMENT

DR. J. L. GRUND announces the opening of his office at 491 Commonwealth Avenue, Boston, Mass.

#### RECENT DEATHS

DR. PHILIP CHALLIS BARTLETT, a Fellow of the Massachusetts Medical Society, died at his home in Newton Highlands, July 25, 1924, at the age of 49. He was a graduate of Tufts College Medical School in the class of 1900, joined the Massachusetts Medical Society from Worcester in 1902, moved to Danvers and from there to the Rutland Sanatorium, finally settling in Newton Highlands with an office in Boston, in 1913.

DR. RICHARD HENRY STAPLETON, a Fellow of the Massachusetts Medical Society and practitioner of Worcester, died at St. Elizabeth's Hospital, Brighton, July 18, 1924, after an illness of five months. He was a graduate of Holy Cross College in 1886 and of Bellevue Hospital Medical College in 1892 and had practiced in Worcester since graduation.

#### OBITUARIES

##### DR. FREDERICK E. CHENEY

DR. FREDERICK E. CHENEY of Concord and 64 Commonwealth Ave., Boston, died at the Massachusetts General Hospital on July 2d after a short illness. He was born in 1862 in Rutland, Vermont. In 1894 he was married to Miss Grace Cartwright of Rochester, N. Y., by

whom he is survived. His sons, Dr. Robert C. Cheney and Frederick C. Cheney, and his mother, Mrs. George A. Cheney, also survive him.

Following his graduation from the Harvard Medical School in 1885, he was House Officer of the Massachusetts Charitable Eye and Ear Infirmary. On completing his service there, he continued his studies abroad. After his return home he was appointed Assistant Surgeon at the Infirmary, later on Surgeon and finally Chief of the Ophthalmic Staff, retiring in 1914, when he was made Consulting Surgeon.

For many years Dr. Cheney was on the Staff of the Massachusetts General Hospital. He was instructor in the Ophthalmological Department of the Harvard Medical School for a number of years. He was a member of the American and the New England Ophthalmological Societies, Massachusetts Medical Society, Boston Society for Medical Improvement, Boston Society of Medical Sciences, St. Botolph and Harvard Clubs of Boston, and numerous other societies. He contributed a number of papers to the Literature of Ophthalmology.

As an ophthalmologist, Dr. Cheney stood in the very front rank; he was a skilful operator, a good diagnostician, unexcelled in the use of the ophthalmoscope, and a careful refractionist. For many years he enjoyed a large practice and had been active in his professional career up to a few days of his death. Dr. Cheney was a man of rare personal charm and a delightful sense of humor which endeared him to his friends. He met difficulties and disasters with courage and serenity. He was a lover of the country and outdoor life, and was devoted to his family. He left to them a memory of which they may well be proud.

#### FLORENCE AUGUSTINE SULLIVAN, M. D.

DR. SULLIVAN died at his home in Haverhill, July 15, 1924, on his 47th birthday after an illness of several months.

He was born in Lawrence, July 15, 1877, a son of John and Elizabeth Sullivan. He received his education at the Lawrence parochial schools, graduating from Lawrence parochial high school in 1893. He was graduated from the Baltimore Medical College in 1900, after which he immediately began the practice of his profession in Haverhill. He joined the Massachusetts Medical Society in 1903. Latterly he had given chief attention to pediatrics.

In September, 1903, he married Winifred A. Hughes, of Lawrence.

He was elected a member of the Haverhill school board in 1900 and in 1909 was elected a member of the Haverhill board of health, serving seven years and again being elected to the board in 1921.

He is survived by his widow and three children.

## NOTICES

### AMERICAN ELECTROTHERAPEUTIC ASSOCIATION

THE American Electrotherapeutic Association will hold its 34th Annual Meeting September 9th to 12th at the Hotel Pennsylvania, New York City. Papers and demonstrations regarding all phases of physical therapeutics will be presented. All legally licensed physicians are welcome. For detailed program address the Secretary, Dr. Richard Kovacs, 223 East 68th Street, New York City.

### WACHUSETT MEDICAL IMPROVEMENT SOCIETY

ON August 6th, an outing and clam-bake will be held at Dr. Washburn's camp, "Sunset Lodge," on Lake Anascomet, in Hubbardston. The members of the Brookfield Medical Club will be guests. Ladies will attend. A urological programme has been arranged. Dr. E. Granville Crabtree, of Boston, will speak on "The Treatment of Prostatic Obstruction." Dr. Walter D. Bieberbach, of Worcester, will speak on "Pyelonephritis of Pregnancy."

Swimming, fishing, etc. will be indulged in.  
 GEO. N. LAPHAM, Secretary.

### UNITED STATES CIVIL SERVICE EXAMINATION

The United States Civil Service Commission announces the following open competitive examination:

#### JUNIOR BACTERIOLOGIST (MEDICAL)

The examination will be held throughout the country on August 6. It is to fill vacancies in the Hygienic Laboratory, Public Health Service, at an entrance salary of \$1,740 a year.

Applicants must have been graduated from a college of recognized standing with the degree of B. S., such degree requiring the completion of at least 118 credit hours, 18 credit hours of which must have been in bacteriology; except that senior students in such course will be admitted to the examination subject to their furnishing proof of actual graduation within three months from the date of the examination. Applicants who have completed at least two years of such college course may substitute 12 months of experience in bacteriological research or laboratory work for each of the other years lacking completion of such course.

The duties of the position are, under immediate supervision, to perform scientific work in bacteriology and related work as required.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil-service examinations at the post office or customhouse in any city.